FIRE ENGINEERING

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The Journal of the Fire Protection Profession Since 1877

JANUARY, 1951

Oil Pipe, Bursting at Tile Plant Fire, Los Nietos, Cal., Showers Burning Fuel and Debris Over Large Area (Article in This Issue)

A GAGE-BABCOCK PUBLICATION

Suggesting A NEW MANUAL METHOD of artificial respiration

INhalation

EXhalation

We believe you will be interested to know of a new method of artificial respiration, requiring no equipment of any kind. Early experiments indicate that it ventilates a victim's lungs better than prone pressure, especially since it begins by getting breath IN instead of forcing more OUT. The method consists merely of lifting the hips a few inches and then lowering them.

Many variations are possible. Prone pressure may be used as part of the maneuver. In aiding very heavy persons, often only one hip needs to be lifted (rolling rather than raising the hips). In most cases swaying with straight arms (see pictures) makes lifting easy.

JOHN HAVEN EMERSON

Published References: Emerson, J. H., BULLETINS, 1948, 1949, 1950. Emerson, J. H., OCCUPATIONAL HAZARDS, 12:16, 1950. Thompson, T. C., JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 104:307, 1935. Garrison, D. L., SAFETY ENGINEERING, 99:18, 1950. Whittenberger, J. L. and Sarnoff, S. J., MEDICAL CLINICS OF NORTH AMERICA, 34:1349, 1950. New York Academy of Medicine, JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 144:25, 1950. Wood, J. R., JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 144:606, 1950.

For a more complete description write for illustrated circular.

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FIRE ENGINEERING

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FRED SHEPPERD
Editor

ROI B. WOOLLEY
Assistant Editor

A Friend—and a Voice At Court!

IT has been said that the Fire Service is not represented in the Nation's capitol—that it hasn't a friend at Court.

● In the sense that the Fire Service maintains no lobby "on the Hill," that is correct. In another sense, however, such is not the case!

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● Right now, with the critical problems of a potential war—of controls, priorities, draft of fire fighters and shortage of manpower and apparatus—to name a few, facing "all hands," the need of such a Friend—and such a Voice is more imperative than ever.

● Editorially, and in every other way FIRE ENGINEERING hopes to measure up in critical 1951 to its past performances over the last 74 years.

The Publishers

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The Journal of the Fire Profession since 1877; published on the fifteenth of each month by Case-Shepperd-Mann Publishing Corp., 24 West 40th St., New York 18, N. Y., also publishers of *Water Works Engineering*, *Wastes Engineering*, etc. ¶Subscription price: U. S., Latin America and Canada, $3.00 a year; Foreign, $4.00; Single copies, 35c. ¶Member of Audit Bureau of Circulations and Associated Business Papers, Inc. ¶Entered as second class matter April 15, 1929, at the Post Office at New York, N. Y., under Act of March 5, 1879. ¶Contents of this issue copyrighted, 1951, by Case-Shepperd-Mann Publishing Corp. President and Advertising Director, KARL M. MANN; Vice-President and General Manager, I. HERBERT CASE; Secretary and Editorial Director, FRED SHEPPERD; Assistant Advertising Director, WALTER H. FREDRICKS; Eastern Representatives, WILLIAM J. GIBSON, ALFRED J. HOUGHTON; Circulation Manager, W. H. TOPHAM. CHICAGO OFFICE: W. S. CLEVENGER and L. M. ROCHE, 8 So. Dearborn St., Chicago 3, Ill.; SAN FRANCISCO: CHARLES H. WOOLLEY, 605 Market Street, San Francisco 5, Calif.; Los ANGELES: AUGUST HAURIN, 6000 Miramonte Blvd., Los Angeles 1, Calif. ¶Printed in U.S.A.

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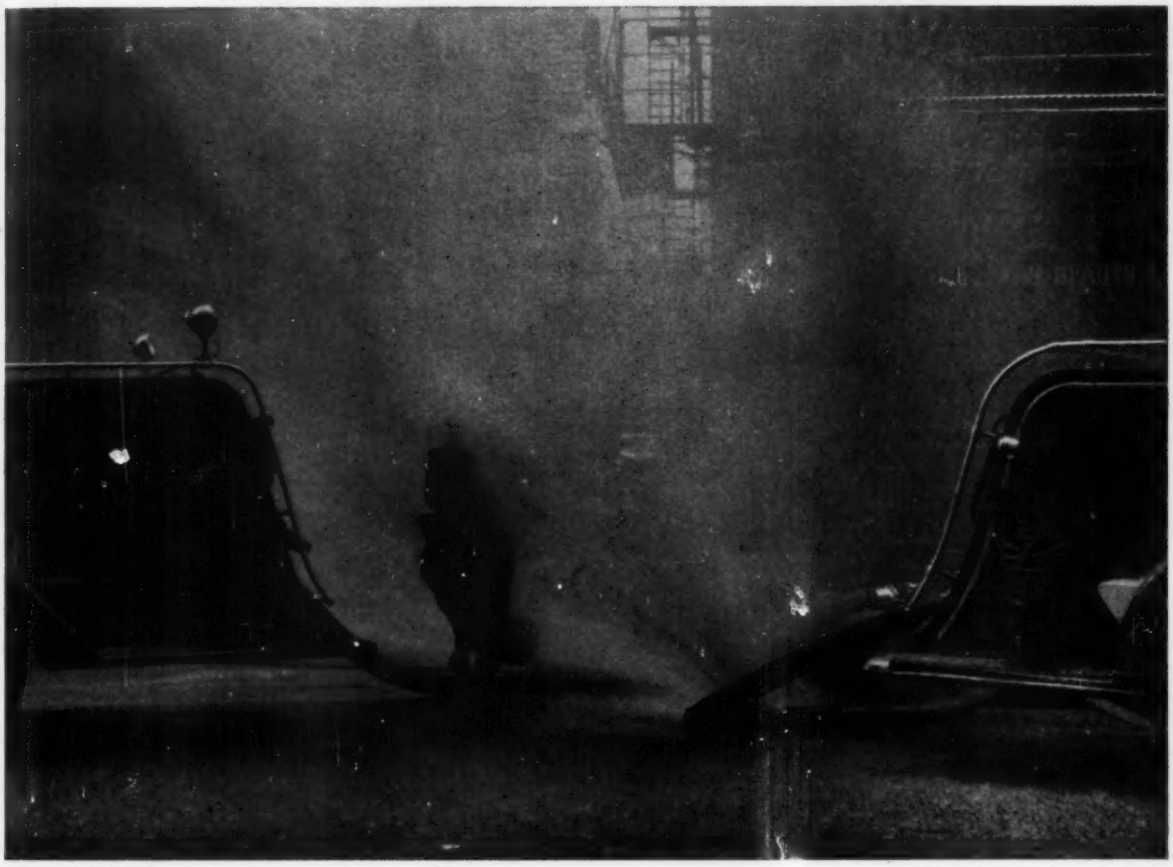

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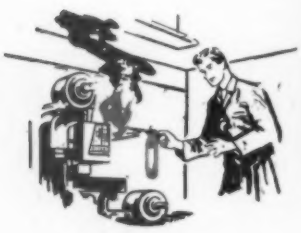

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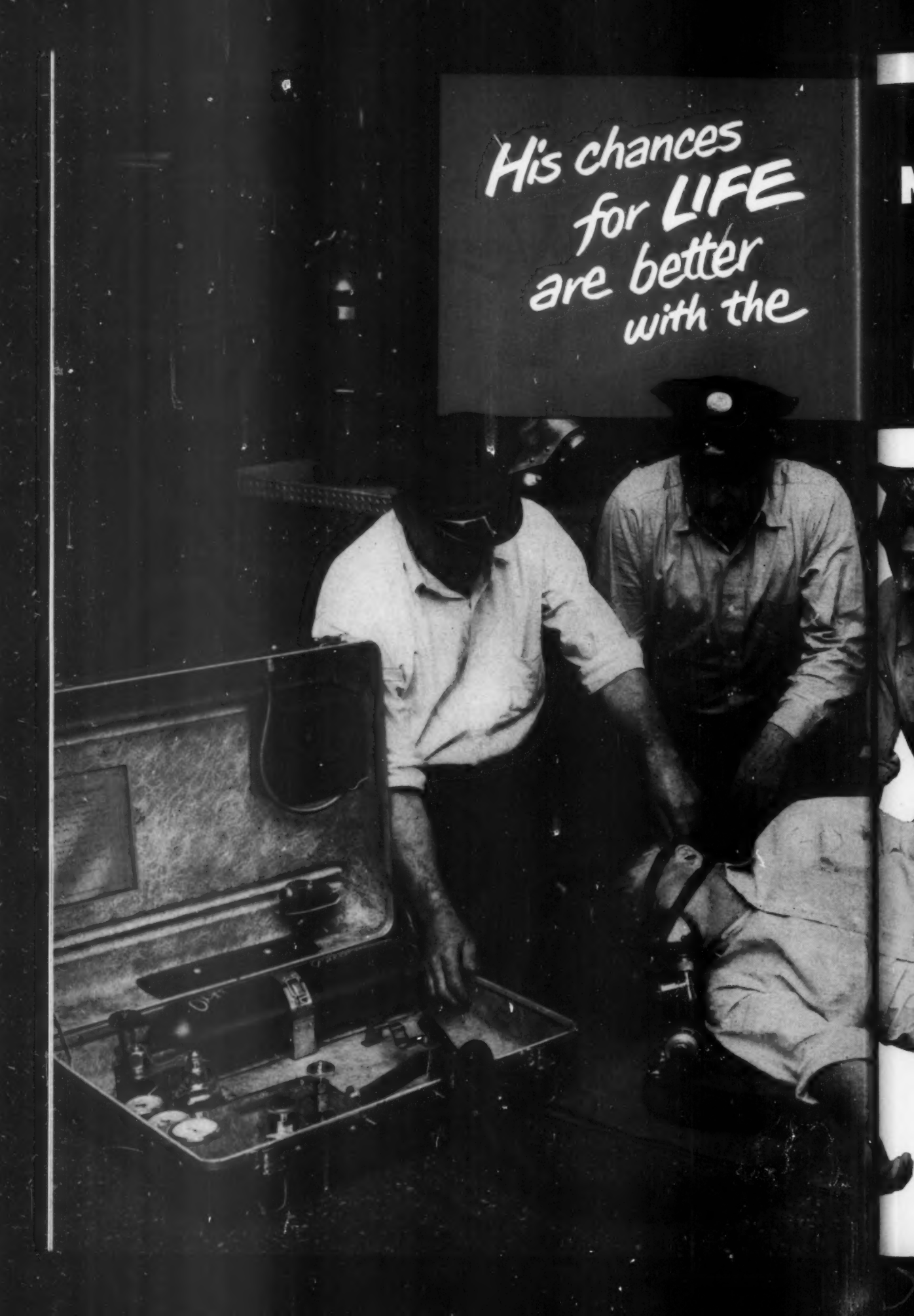
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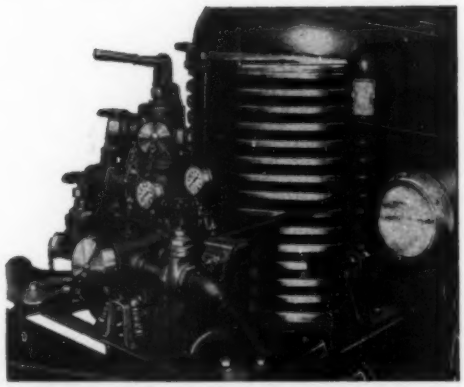

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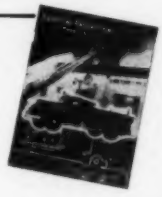

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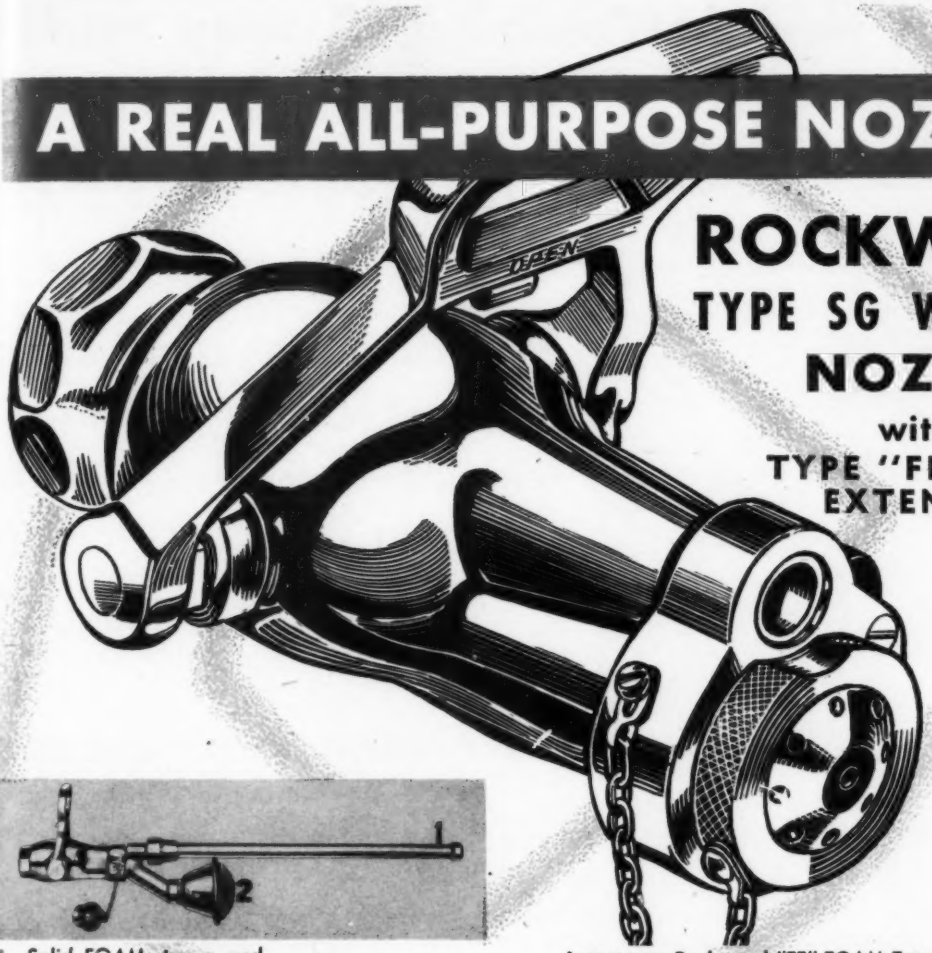

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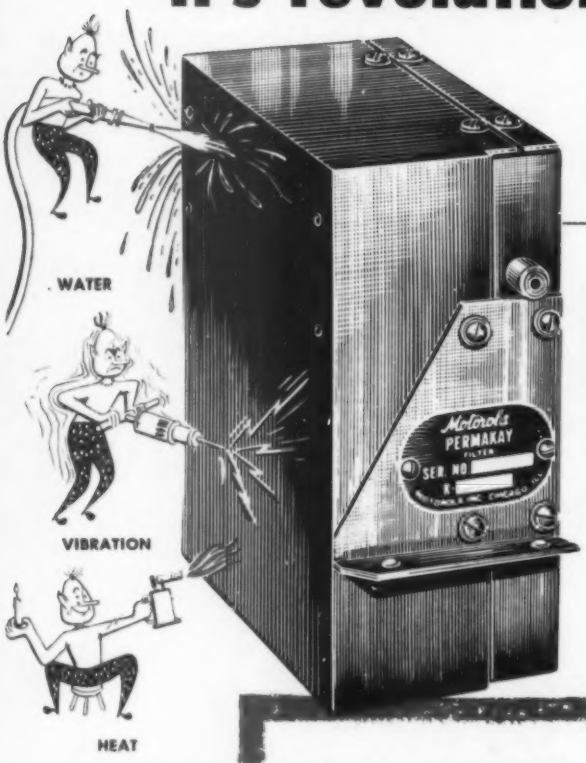

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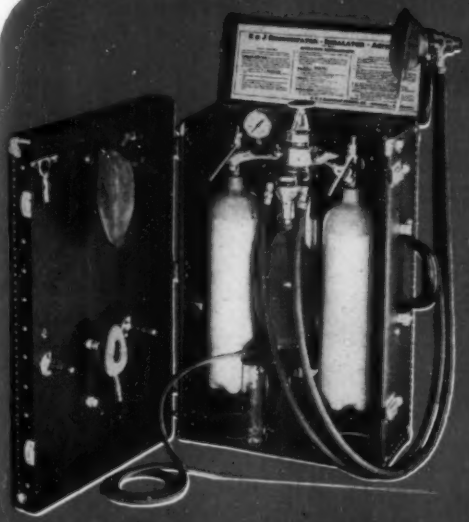

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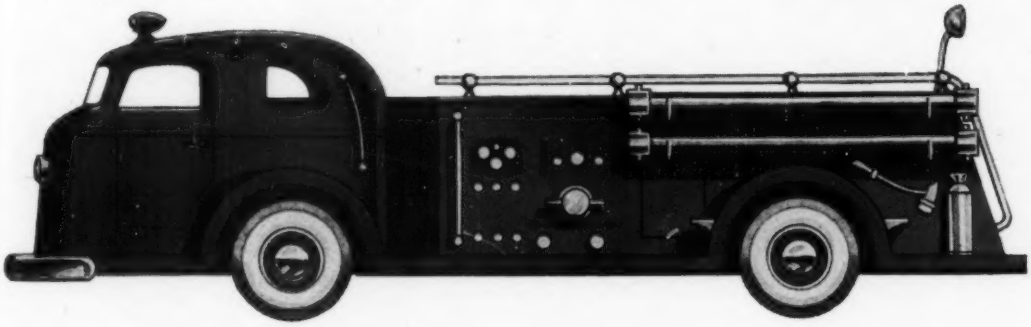

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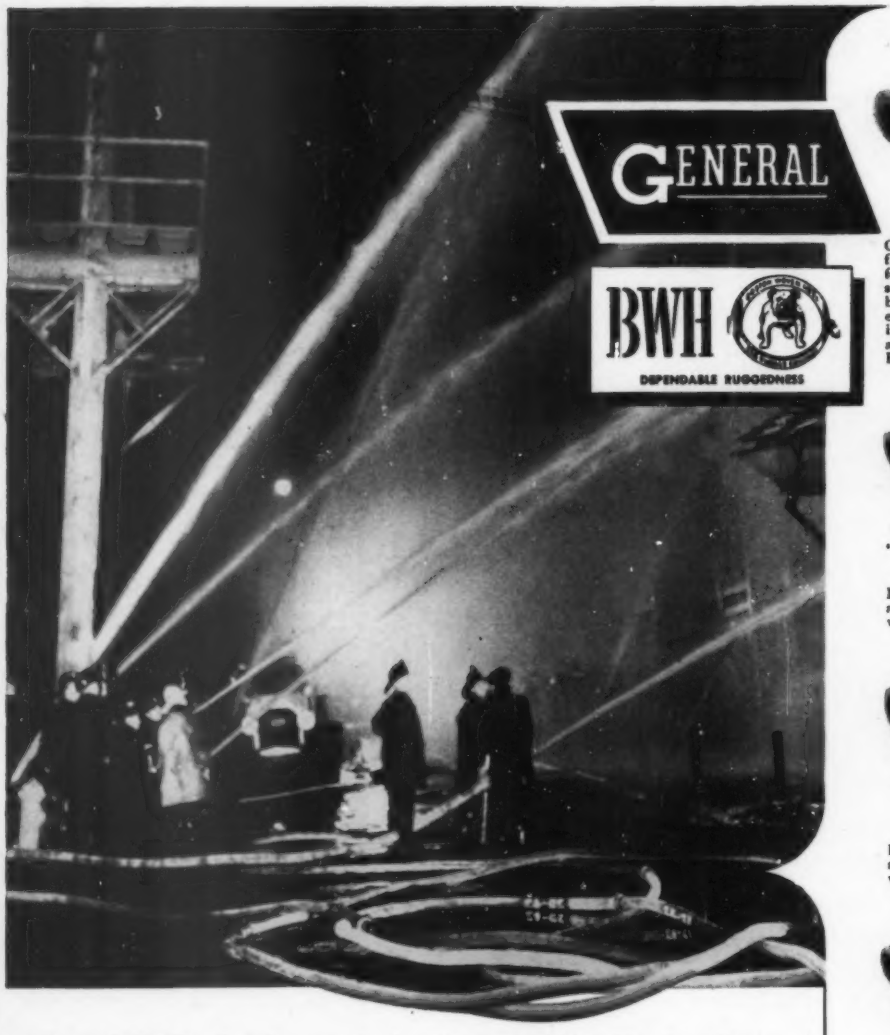

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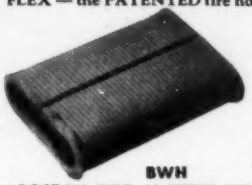

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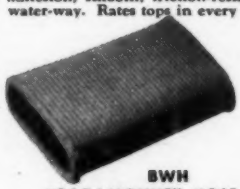

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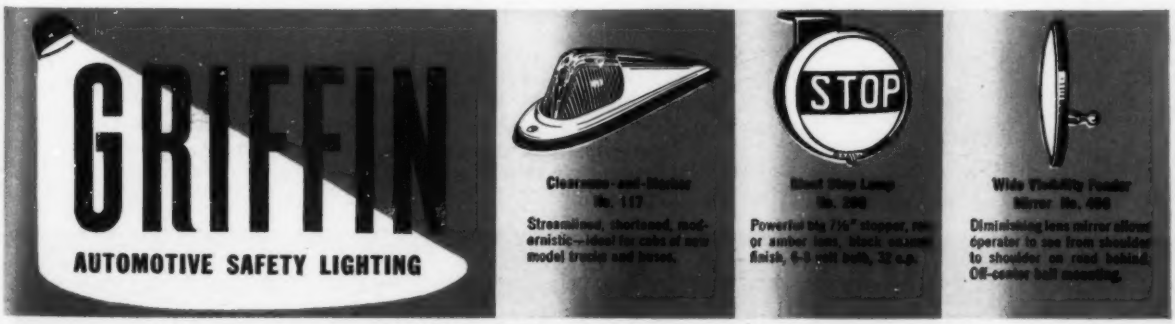

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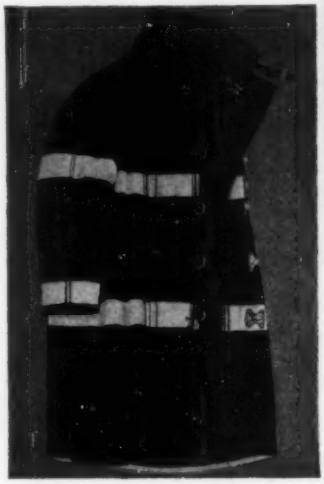

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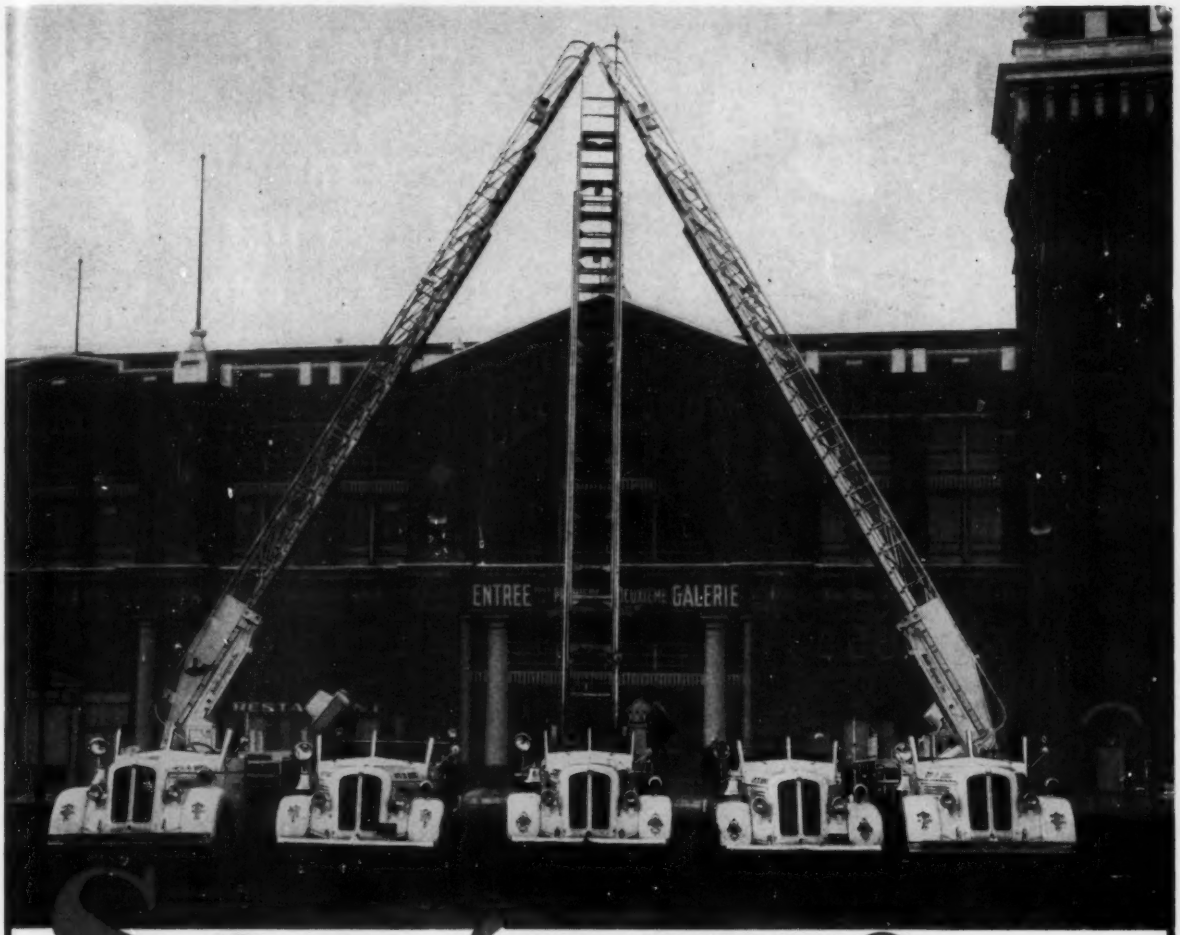

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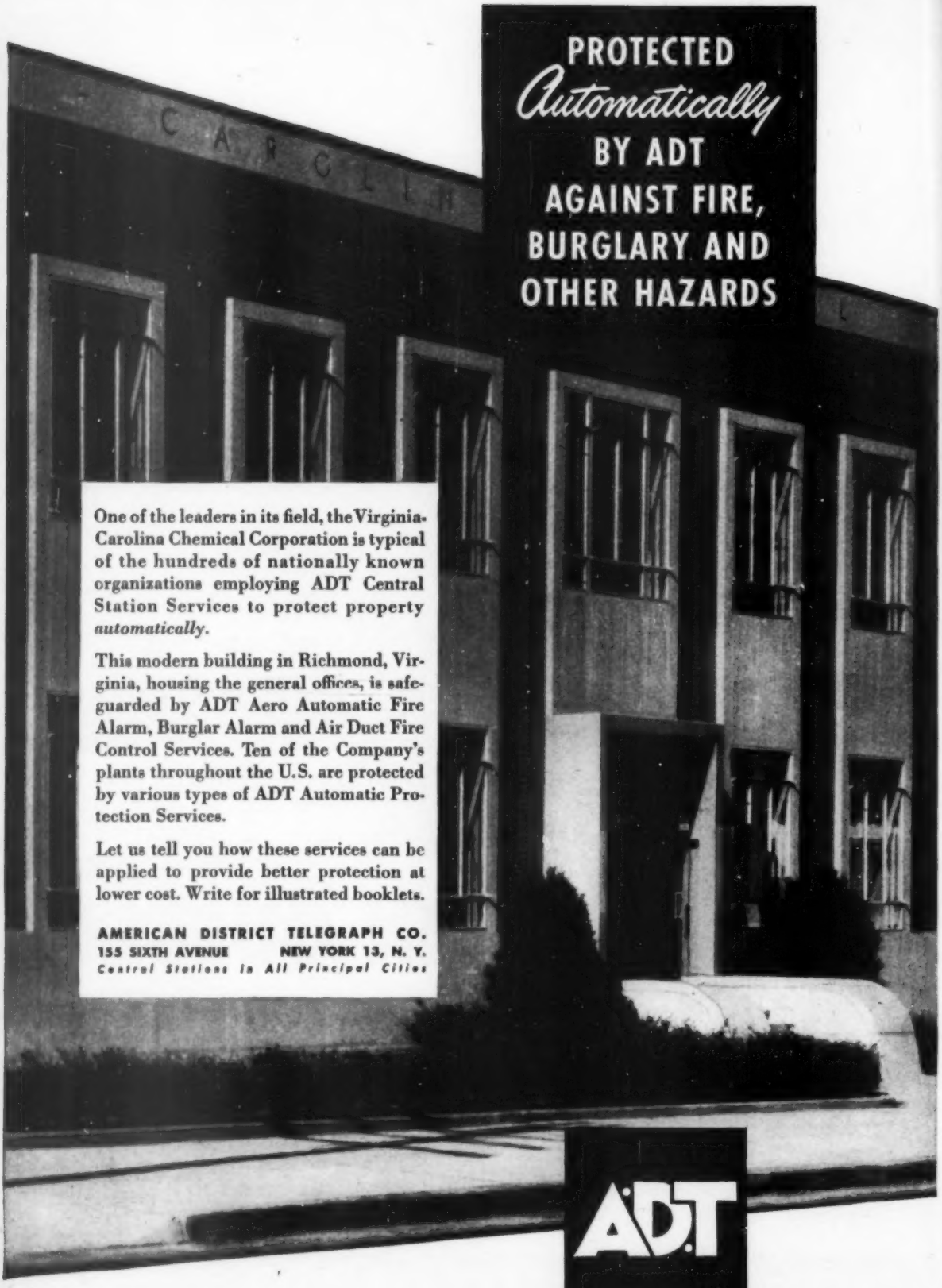

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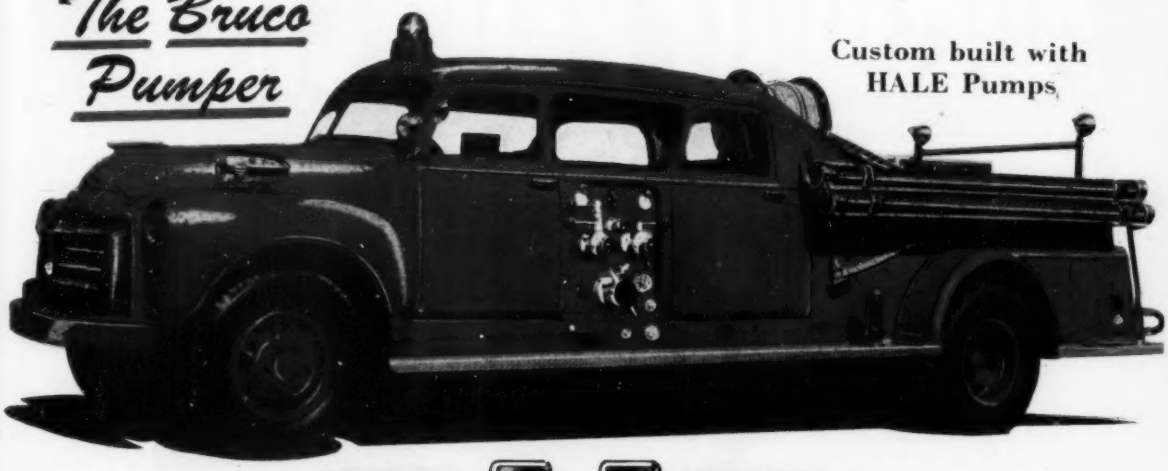

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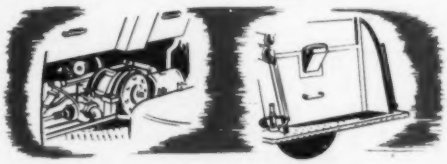

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JANUARY, 1951

FIRE ENGINEERING

VOL. 104, NO. 1

With the Editor

Fire Won't Wait!

America is at the crossroads! The President has declared a state of emergency and the nation has embarked on an all-out struggle to prepare for the war that most authorities believe is merely a matter of time.

It is common knowledge that our ability to wage effective war depends in great measure upon our capacity for production and upon adequate supplies of essential materials. That is as plain today as it was in World Wars I and II.

But while we today are bending every effort to *produce,* and with full war defense controls and priorities around the corner, we are repeating the costly errors and squandering our resources today, just as we did when production was the order of the day in those earlier crises.

Can you hark back to 1914, 1915 and 1916? Do you remember the Black Tom explosion and the numerous other fires and explosions of suspicious origin in defense industries? Can you remember the fumbling and the confusion when it came to setting up fire defense safeguards as World War II loomed!

Faced with a rubber shortage, a Fall River fire, you will recollect, consumed 18,000 tons of precious rubber—enough to make approximately 2,000,000 essential auto tires. Needing transports to move our troops, the nation watched the $50 million Normandie burn and capsize at her Hudson River pier! It took many ships to move the divisions that she could have handled. Needing essential food stuffs, authorities watched while flour mills, packing plants, warehouses went up in smoke! And all the while a harried and worried fire service was being cramped with more and more controls!

Today, as in previous emergencies, great emphasis is being placed on all-out production, as though production alone will prevent catastrophe! Today, as before, while the heat is on production, destructive fire is also turning on the heat, and finished products, as well as critical raw materials, many of them essential to defense are going up in smoke. Why? Because we're forgetting that *protection of production is as essential to our welfare and our warfare as production itself!*

Today, as then, the fire service, handicapped by lack of essential, modern fire fighting facilities, from communications to fog nozzles, with more men on its rosters than ever before, and rolling to fires with fewer men on apparatus than ever before, knows not where it stands.

With all the "experts" and the "brass" admitting that upon our fire defense forces will fall the heavy responsibility of protecting the nation against fires not only from enemy attack, but from sabotage and other causes, there has not as yet issued from the nation's capitol a single comprehensive fire defense plan! No security measures have been announced to protect American plants and critical installations and stockpiles! And, of greater importance, no steps have yet been taken to make available to the fire apparatus and equipment industry materials and component parts in sufficient quantity to enable this industry to continue operation at even a peacetime rate. Instead, it has been cut from 20 to 35 per cent in critical materials just the same as any non-defense manufacture.

The fire service is faced on the one hand by loss of necessary manpower; on the other, by threatened controls and priorities—and while it worries with the problem of replacing its obsolete and inadequate fire control faciilties.

True, the Federal Government has passed a Civil Defense Bill, calling for the expenditure of over $3 billion—most of it for shelters! But this does not solve the fire service's problem of getting sufficient apparatus and equipment to replace obsolete units and to strengthen the departments for the big task which faces them. Manufacturers of such equipment must receive special consideration in the way of priorities before they can meet the demands already being made of them.

America is at the crossroads! *So is the fire service!* Gentlemen of Capitol Hill, it's later than you think! And fire continues to wait for no man and no priorities!

Fred Shepperd

Recent Lumber Yard Fires Stress Inherent Hazards

Upswing of Costly Fires in Lumber Storages Peril War Defense Production—Give Fire Service Added Work

By ROI B. WOOLLEY

The following account is based upon a study of lumber yard, mill and storage fires in the records of FIRE ENGINEERING, with particular emphasis on over 30 such fires that occurred between October 1 and December 20th, 1950.

The report on the Red Bank, N. J., fire of November 1, is based upon information furnished by Frank Wilgus, of the Asbury Park, N. J., Press; that of the Diamond Match Co. lumber yard blaze in Stamford, Conn. of November 6 upon data provided by Fire Chief Victor Veit of the Stamford Fire Department, and correspondent Tom Magner of Bridgeport; that of the Post Lumber Co., Rockville Centre, N. Y., fire, upon accounts furnished by contributor James H. Fairbrother, Roosevelt, N. Y., and John Kearns, Oceanside, N. Y. To these, and other contributors who have submitted helpful data, we extend our appreciation.

Acknowledgment is also gratefully made of source material provided by the International Association of Fire Chiefs, National Board of Fire Underwriters, National Fire Protection Association and the New York Fire Department.

LUMBER, particularly in finished form, is a critical material in the war defense production program. Because of its combustibility and the conditions under which it is milled, handled and stored, it is extremely vulnerable to destructive fire. At the same time, such fires frequently constitute serious threats to other valuable property.

Because of their vulnerability, lumber yards have always been a ready prey to the arsonist and the saboteur. Located, as they sometimes are, in remote neighborhood covering large areas, they are difficult to guard and protect against the deliberate or casual fire-setter. Fire once started in such occupancies spell trouble for the fire fighter. For this reason they cause the fire fighters more apprehension than almost any other type of occupancy.

Although fires in the lumber and woodworking occupancy group do not rate as high in lumber as many other classifications, they rank high in loss records, and in the "large loss' category. For example, comparative figures for the years 1947, 1948 and 1949 reveal the following:*

Year	Occupancy	Fires	Loss
1947	Lumber and coal yards	2,200	$17,000,000
	Woodworkers	1,400	11,400,000
	Total	3,600	$28,400,000
1948	Lumber and coal yards	1,900	$12,000,000
	Woodworkers	1,900	17,000,000
	Total	3,800	29,000,000
1949	Lumber and coal yards	1,900	$10,000,000
	Woodworkers	2,000	15,100,000
	Total	3,900	25,100,000

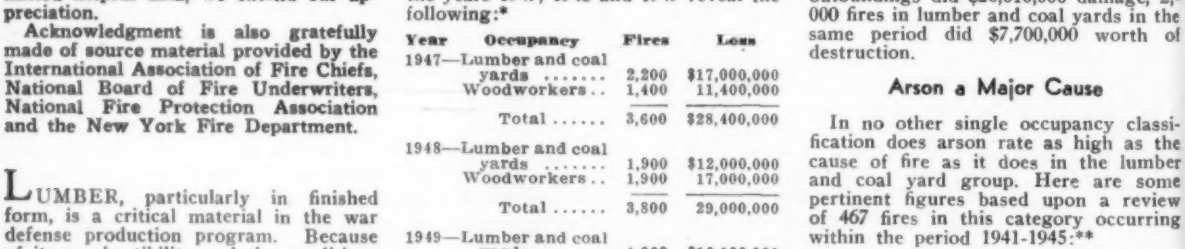
Some idea of the seriousness of lumber yard fires is indicated by further loss records for 1947. That year there were listed 59 "large loss" fires** with total property loss of $1,770,000. Of these 59 fires, five involved lumber yards. And of the five, four communicated to and involved other property.

Additional study of fires in this group indicates that although lumber and coal yard fires which occurred in the five-year period, 1941-1945 were third in the entire list of 13 occupancies classed under "Miscellaneous," with a total of 2,000 incidents, they were second in loss totals, being exceeded only by fires in "Barns" the 22,500 of which chalked up loss of $20,860,000. "Outbuilding" fires, of which there were 21,500, wrote off $5,150,000 worth of property. In short, although 44,000 fires in barns and outbuildings did $26,010,000 damage, 2,000 fires in lumber and coal yards in the same period did $7,700,000 worth of destruction.

Arson a Major Cause

In no other single occupancy classification does arson rate as high as the cause of fire as it does in the lumber and coal yard group. Here are some pertinent figures based upon a review of 467 fires in this category occurring within the period 1941-1945:**

*From the National Fire Protection Association Quarterly.
**Crosby Fiske Forster Handbook, 10th Ed.



Left: Lumber Piles Seem to Go Up All at Once. Fire Travels Directly Through Piles as Well as Over Them. Intense Heat Makes Close Work Impossible. Right: Even Though Two Lines Are Operating on One Pile, It Is Difficult to Kill All Fire; Pile May Have to Be Pulled Over to Get Remainder of Fire.

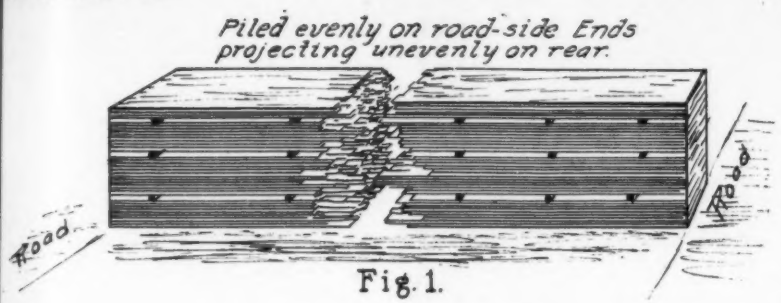


Fig. 1.

	Per Cent
Exposure—(mostly sparks from chimneys, or stacks, burning buildings, locomotive sparks, grass or rubbish fires, vehicle fires, adjacent lumber or coal yard fires, forest fires, etc.)	25.0
Incendiary (Malicious mischief or tramps)	24.0
Smoking & Matches	10.5
Misuse of Electricity	9.0
Special Hazards Connected With Processing	7.0
Heating Defects	5.0
Lightning	3.0
Spontaneous Ignition	3.0
Space Heaters	3.0
Careless Use of Welding Equipment & Blow Torch	3.0
Incinerator Sparks	2.0
Careless Handling of Flammable Liquids	2.0
Miscellaneous	3.5
	100.0

A number of factors make the lumber yard, as an occupancy, particularly vulnerable, if not inviting, to the casual and malicious arsonist, and to the enemy saboteur. The latter of course contemplates lumber in any form as an essential to war production and he finds that, given a good start (which for reasons explained herein is not too difficult a task), the hot, spreading lumber yard fire may conceivably involve other important installations, if not the entire industrial section of a community.

Doubtless most set lumber yard fires are the result of carlessness on the part of juveniles and tramps rather than deliberate intent. Nevertheless, it is not always easy to determine whether or not such fires were set, because the evidence, if any, is usually totally destroyed in such fires, and the arsonist seldom admits his guilt even if apprehended.

Factors that contribute to set fires in such occupancies are: (1) location of the yard and/or plant; usually on the outskirts of a community and along the railroad right-of-way—locations which receive the minimum of patrolling by local police; (2) the large area covered, making it almost impossible for watchmen and police to effectively patrol the premises; (3) the nature of the combustibles—making for easy ignition, and for safe get-away and (4) the inadequate guard measures, such as proper fencing, watchman's service, etc.

Many fire chiefs and fire protection engineers believe that arson of one kind or another is the real cause of many fires in such installations which are listed as "unknown" on the records. The foregoing data takes no recognition of fires of "unknown origin" and represent only known causes of fires. Fires of unknown causes are reported as high as 32 per cent of all those recorded. This estimate was given back in 1920 by the Committee on Manufacturing Risks and Special Hazards of the N.F.P.A. which reported: "Careless location, arrangement and methods of conducting lumber yards, the use of antiquated and unscientific methods of drying lumber which are not only dangerous but uneconomical, and the lack of the most simple and ordinary means of extinguishing fires, all aid in creating a fire loss which, in this class of property, is excessive and much above the average of many other classes."

Factors That Make for Hazards

Generally, in earlier days, lumber storages were outside of or on the edge of populated places. As communities expanded, many yards in time came to be located in built up areas, some in the midst of warehouses and factories, others in residential areas. Also, in many cities, storages of lumber were, and are, permitted in business areas, some of it within buildings never intended for such storage. In some such cases, storage is maintained as a part of a manufacturing plant.

Lumber installations in sparsely settled, suburban or country areas usually have limited approaches and available water supplies and are subject to high winds. Other installations are found in waterside and dock areas; these also are difficult of access for fire fighting forces.

The layout of the average lumber yard is usually such that roadways lead to the front of each and every lumber pile, or shed, contained within its area, through which trucks may be driven for loading or unloading purposes. Roadways are seldom paved and may be unsuitable for use by some fire apparatus. Roadways are supposed to constitute fire breaks but in not a few cases they have proved too narrow to even permit of successful fire fighting operations.

Lumber is usually piled so that the end of the pile adjacent to the roadway presents an even surface, or end. On the rear of the pile, however, the appearance is different. Here the boards may not line up evenly, but project at different lengths, producing an uneven surface which is an aid to fire spread (Fig. 1). Space between piles at the rear is frequently insufficient to permit a man to pass through without stooping or crawling or stepping over projecting boards. It is customary to place the piles back to back between roadways.

Out among the lumber piles in the yard, the stacks which are built up or "stick-piled"—i.e.: with small strips between layers of lumber to aid in its drying, constitute a greater hazard than those which are piled flush and flat. It is easy for fire to travel through a pile of the former type without showing at the top, due to the voids between the different layers.

Some lumber is stored in sheds or lean-to's, in themselves of combustible material. Usually this is the better grades of finished lumber and it is not unusual for these pile to be flush against the structure at the back and with little space between piles at the sides. Some storage is contained in racks and platforms in sheds two stories or more in height, open only on one side (the roadway). Where fire originates in such sheds, it constitutes a serious problem for the fire fighter.

Yards frequently include woodworking plants and mills containing motor driven machinery. High tension wires on wooden poles may be found in or bordering such storage yards.

The large areas involved and the fact, as stated, watch service is limited, too often results in delayed discovery of the fire and notification of the local fire department. It is not infrequent that such fires will be "in the sky" before the first fire forces arrive. Incidentally, the location of the yard, and its large area, limited water supplies, and difficult approach, complicate the problem of adequate response of fire forces, and placement of pumpers and stretching of hose lines. Long layouts may be needed and with companies shorthanded, as they have been, this may result in

Fire Roars Through Highly Combustible Cured White Pine Lumber in $250,000, Binghamton, N. Y., Fire Which Police Said Was the Work of a Firebug. Firemen Saved All Buildings, Including the Largest Stock Millwork Plant East of the Mississippi. Boxcar, Right, and Piles of Rough Lumber, Left, Were Lost.

serious delay in fire control operations.

Obviously, the greatest fire hazard in piled lumber, as regards the fire's extension, is on sides and rear of piles because of the small area separating piles and the irregular lengths of the stock, the longer pieces extending beyond the shorter ones, creating what might be called "deflectors;" in other words, the fire, going up along the face of the pile, strikes the overhang and is "deflected" into the pile, and to adjoining piles. The smooth side of the pile does not present the same hazard.

Fire Control Operations

In fighting such fires, if the fire seems to be getting away the first step is to lose no time summoning additional help. Rapid size-up may be difficult, particularly where there is heavy smoke condition and the large area that may be involved, but in the interests of safety it may be better to call for help that may not be needed, than to fail to summon it promptly and have it available should it be needed.

If private fire extinguishing equipment is readily available it may be advisable to make use of it.

It is well to remember that the larger the area that has been involved by fire, the greater is the length of the fringe around the fire area that must be covered.

The extent of the fire, the exposure hazards, condition of weather and available help will indicate the initial attack strategy. Where booster or small lines are used in the initial attack, supporting and covering lines should also be stretched.

Where fire has started in a large shed, heavy streams are called for. The heat will be too intense to permit effective inside work with small streams, and large streams that have both range and volume are imperative. If plenty of heavy streams are available the fire may be held to the one shed, first by continually wetting down the roof inside and out so that the fire will not go through it and carry a shower of embers along, and secondly, by drenching the lumber. Where the fire is knocked down to the point where men can enter the shed, small streams may be used for killing the fire between and under piles and in mopping up during overhauling.

Fire in Open Piles

Where a number of piles have ignited out in the yard, the procedure is much different. Consensus of opinion among chief officers is that both large and small nozzles will be needed. Fig. 2 gives a diagram of part of a lumber yard showing one acceptable method of fighting such a fire.

Piles 1 and 2 are fully involved by fire, while 3, 4, 5 and 6 are just starting up, as shown by the shaded portions. Pile 8 is seriously exposed, while 7, 12, 11, 10 and 9 are also in the path of the fire. This is the condition, let us say, when the first firemen arrive. The wind is blowing in the direction shown by the arrow.

Lines A and B should be large caliber streams with sufficient pressure to reach piles 1 and 2. Streams C and D should be of large caliber and good range. These four streams should work on the windward side of the fire as shown, and follow it up, killing the main body of the fire. These four streams may be followed up by small caliber streams to get into the piles and kill remaining fire. The latter lines may be brought up in the same way as A, B, C and D, or in the side aisles as E and F.

Lines G, H, I and J operate from the sides or flanks. They may be small caliber lines that are mobile. They can be kept up close to piles to protect men from exposure to the main body of the fire. The small streams are to wet down the piles in the path of the flames, and check any small fires that may start.

As fire does not jump directly into the center of a pile of lumber but must first start on the outside and work inward, if the outside of the pile is kept wetted down the fire will not penetrate it. This point should be remembered when using small caliber streams for wetting down in the path of the flames.

Where fire has gained considerable proportions and great heat is developed, with flying embers, the problem calls for the heaviest possible concentration of large caliber streams so directed as to (1) kill the main body of fire and (2) reduce the heat wave to prevent all possible extension.

If because of heat, as is sometimes the case, men cannot work close enough to the fire to bring streams into effective range, and a satisfactory stop to leeward such as throwing up a strong water curtain, cannot be made, the fire will have to be fought from the flanks in the effort to turn its course away from most serious exposures. At the same time forces should be deployed around the fringes of the fire, and well to leeward, to locate and extinguish incipient fires

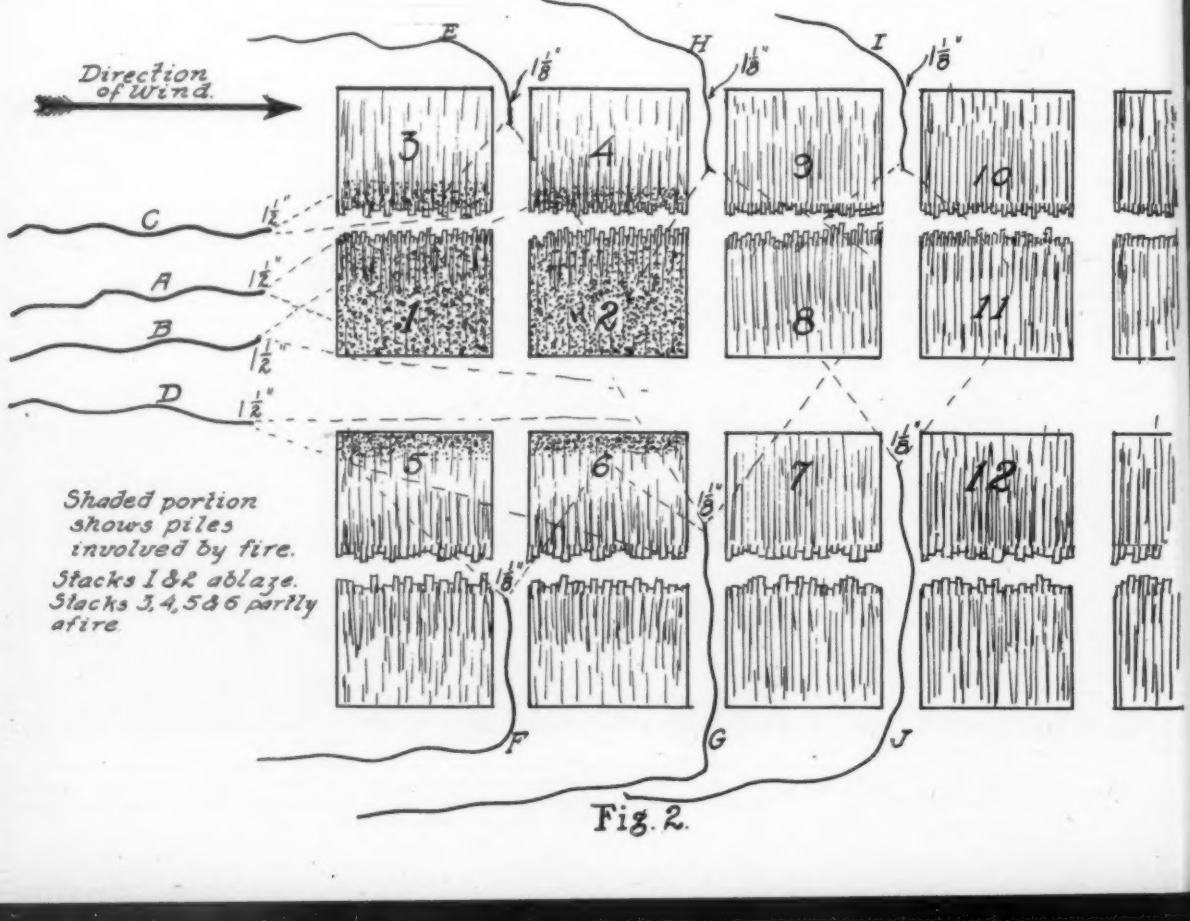


Fig. 2.

started by flying embers. Police and even citizens may be employed to patrol the areas and assist in controlling fires so started.

Some chiefs maintain that in preventing extension it is good practice to utilize all available streams in wetting down the surrounding piles, and sheds or other property if they are exposed, totally disregarding the location where the fire originated. It would appear however, that no fixed rule can be laid down. Too many imponderables complicate the problem, not the least being the question of water supply and strength of the fire forces.

In preventing extension of the fire from pile to pile, distributing nozzles may be used unless there is sufficient space to use hand lines. Distributors may be lowered on the end of a line between piles, which insures a better distribution of water with more effective results than may be obtained from a straight stream.

Logically, the leeward side of such fires is the most dangerous due to the fact that hot gases, heated air and even flame may be carried a considerable distance by the wind and draft created by the fire (fire of any magnitude creates its own draft). The presence of a substantial stream between the fire and exposed lumber piles or other purposes will reduce the temperature of the air and retard fire extension by radiation. Several large lumber yard fires have been held in check in this connection by use of a "water curtain" formed by directing two large streams so that they converge and meet at about 40 deg. off the vertical and form a heavy water curtain through which few embers and sparks pass. Water towers and ladder pipes have been used for like purpose as well as directing streams downward upon the piles.

A factor to consider is possible change in wind. As said, fire creates its own air currents. A number of different factors may bring about a quick change in the wind during fire control operations, to catch fire fighters in the rear where they may be unprepared to cope with it. This is another reason for having plenty of supporting strength available.

In placing and operating companies, some officers endeavor to so locate them that they are not "fighting each other" that is, driving the fire down upon fellow fire fighters. Companies are placed in driveways to take care of fires in their aisles. For example, if there are four driveways and the whole yard is involved, two companies are placed at one end of two of the driveways and two companies on the other ends of the other two driveways. Thus they will not be driving the heat smoke and fire on top of one another.

Sometimes the work of extinguishment requires the breaking down of a pile of lumber because fire has penetrated deeply into the interior of the pile. Officers should exercise care and precaution in this work and be prompt to observe the undermining effect of the fire on the pile and thereby be sure it is safe for men to work on or near it.

Overhauling lumber yard fires is a problem for serious study in itself. It should be done systematically, the boards as removed not being thrown helter skelter in the way of men working, or so as to obstruct overhauling of additional piles, or movement of equipment. Some very good work has been done in this detail by using a hose wagon or other rig and a pull-down hook and chain to pull over the piles. Roof ropes are not advisable for this work because they have not sufficient strength. A cable or chain is preferable. Water fog and impregnated water (where the fire is not too extensive) may be effective in this detail.

Asbury Park Press Photo

Satter Lumber Yard, Red Bank, N. J., at Height of Fire.

Waterfog and Treated Water

The extent to which water fog and wet water may be employed in combating lumber storage fires has thus far not been fully explored or determined. Their use on incipient fires in such occupational hazards is of unquestioned merit. It has been demonstrated time and again how effective wet water is on fires in sawdust piles. It has also been proved that treated water fog is excellent for covering exposures against radiated heat. Such water sprayed on wood surfaces apparently does not evaporate as quickly as does plain water used for the same purpose.

The present question is how effective can water fog be on lumber yard fires of considerable magnitude? The fact that no fire department has thus far come up with an answer does not necessarily mean that water fog in large volume and possibly treated with a wetting agent, will not prove effective in fighting such fires.

Experiments conducted by Fire Chief Paul P. Heinz of New Haven have demonstrated the surprisingly great extent to which the 500 GPM fog nozzle operating under proper pressure and volume will dampen down everything on the ground and above the ground to a considerable height, over a wide area. Experiments have shown the heavy fog from such a nozzle, supplied by a 750 GPM pump, allowed to drift with the wind dampened everything for a distance of over 500 feet. The dried grass and combustible material on the ground could not be ignited.

Just how many BTU's water fog in volume will absorb, and how rapidly, and to what degree it will take the sting out of a roaring hot lumber yard blaze, is anybody's guess at this writing. It has been established that the rich, heavy pattern of fog can and will provide necessary protection for fire fighters to enable them to get closer to such hot fires with their hand lines and it also has been proved that water fog can be used as an effective barrier to the extension of fire where it could be supplied in quantities.

Some Antidotes

Fire fighters seeking to improve the "fire ills" in this type of occupancy might consider these antidotes:

Improve communications—the establishment of fire detection and extinguishing systems in woodworkers, sheds and other structures containing lumber storage. Also, improved watchman's service—24-hours-a-day.

Better barriers to keep out trespassers —and easier ways for the fire service to gain access to yards, and to negotiate roadways therein (nor will it hurt to improve the quality of the roadways themselves). Gates and doorways should be kept tacked. Fence 10 feet high at least, and "invisible eye" burglar alarms are an asset.

More care in stacking lumber. Where land is not costly, it is uneconomical to pile lumber in high piles, as expense of handling is unnecessarily large. Fifteen feet high should be the limit for safety from fire. Individual piles should be small, being separated every 10 or 20 feet by an alley wide enough to permit laying of hose lines. Large yards should be divided into fire sections by maintenance of clear spaces of 100 feet to 200 feet. Lumber should be kept not less than 100 feet from combustible buildings and railroads except minor piles incident to daily use.

If possible, wind breaks should be set up and lumber piled so the principal driveways are at right angles to the direction of the prevailing wind.

Grass, brush or woods should be kept cut for at least 100 feet from lumber yards. Spark arresters should be on stacks and chimneys and waste burners. Cleanliness is as important in lumber yards as inside buildings. Good housekeeping should be the rule of the yard!

In large yards, fire stops or barrier walls of concrete should be erected. Yard emergency fire equipment should be adequate, and maintained. Yard personnel taught how to use it. Smoking should be prevented or regulated.

Management should encourage fire

department inspection and recommendations for safeguards against fire. And fire departments should endeavor to make more frequent inspections of such occupancies.

Inspections

Fire inspectors should observe and note such factors as these: nature of wood in storage and/or being processed —hard or soft wood; how piled—solid or with open spaces between; whether piles rest on earth, shavings, sawdust or skids. They should note the roadways — their width, whether all-weather thoroughfares or not, and all obstructions to free access. Also, aisle space, whether adequate or not; whether lumber exposes windows of mill or other buildings and condition of aisles—free of incumbrances and combustible materials such as grass, scrap, etc.

Other factors to be noted include location of the yard with respect to exposure harzards; how the yard is protected—by fence, watchman, automatic fire and burglar detection system —sprinkler and alarm notification systems; prevailing winds, and their relation to exposure hazards, including sparks from stacks, chimneys, refuse burners, etc. Also, first aid and other fire fighting facilities, number of persons available for fire fighting, and their training.

Inspectors should check on hydrants—public and private; on gates, if property is fenced in, to insure ready access of the municipal fire department. First-due fire companies (at least) should be familiar with the location and layout of the property; the exposure hazards; first aid emergency fire control facilities; whether or not installation and occupancy violates any part of local fire and other codes; communications facilities—for notifying private and public fire department.

TWO BOYS START COSTLY STAMFORD LUMBER FIRE

Two 10-year-old boys admitted starting a spectacular fire in Stamford, Conn., on the night of November 6, 1950, that razed a lumber yard, damaged an adjoining 4-story distilling plant, destroyed three houses and partially burned three others, with loss estimated by Chief Victor Veit of Stamford at $250,000.

The boys took eight railroad flares and dynamite caps from a New Haven Railroad yard nearby and about 5:30 P.M. set off the flares and caps on the dock of the Diamond Match Co. A company employe ordered the boys to throw the flares into the water and then tried to extinguish a small fire that burned a hole in the planking. He is reported to have overlooked a burning flare that had become wedged in the planking and this, it is believed, touched off the fire that gave ten companies of firemen answering the city's first general alarm in years an all night battle.

Despite efforts of plant workers to control the fire's start with hand extinguishers, it spread on a south-east wind into the match company's warehouse located on Meadow street between it and the East Branch of Stamford Harbor. The warehouse, inside and outside, lumber storage, and dock, were quickly involved and from there the fire jumped Meadow street to ignite a number of frame dwellings and outbuildings to the east. At the same time the roaring flames threatened the large concrete and brick Esbeco Distilling Co. plant which housed, among other flammables, a vat containing 5,000 gallons of raw alcohol. Had this tank ignited, the entire neighborhood, consisting of about 30 old wooden houses, warehouses, another lumber yard, industrial structures and railroad freight yards might have been wiped out, according to Chief Veit.

Despite the fact that four lines were used to wet down the distilling plant, fire entered the top floor on the south side where it was controlled by firemen. Meanwhile three of the exposed houses less than 100 feet from the burning lumber storage, across Meadow street were soon fully involved, and several others were burning as occupants fled the scene. Families in other houses threatened with destruction evacuated the premises as firemen, responding on mutual aid calls, struggled to confine the fire, which was consuming everything in its path, including fences, an automobile, and power and light and telephone poles and wires.

The first alarm at 5:32 P.M., brought Stamford Companies 1 and 2 to the scene. At 5:33 Company 3 responded, when someone pulled a box. At 5:38 Chief Veit turned in a second alarm, ordering out all off-shift men, and at 5:55 with the fire gaining headway, the 9-9-9 was sounded, bringing units of the Springdale, Glenbrook, Belltown, Long Ridge, Turn-of-River, Cos Cob, Sound Beach, Darien and Greenwich Fire Departments, and the Springdale ambulance. Apparatus from New Canaan in turn moved into Springdale's station and crews from East Portchester located in Greenwich.

Twenty-two lines of 2½-in. hose, along with one line of 1½-in. were operated on the fire and to wet down exposures. The Gettman & Judd lumber yard across the canal was cooled as parts of its buildings and storage started smoking. Firemen took suction from a bay inlet and from hydrants over a wide area on both sides of the inlet. The warehouse, which covered half a city block, and most of its stock of fine lumber, were consumed, but some lumber, adjoining the Esbeco plant, was salvaged.

Thirteen city firemen, a member of the Springdale volunteer department, and a civilian, were injured or overcome fighting the blaze. At various times fire fighters were endangered by falling power wires until line crews cut off the current. Power on the New Haven's 11,000-volt service was ordered off.

Burning embers, carried on the strong wind, ignited the roof of a two-story frame house a quarter of a mile away but this was extinguished by members of Chemical 1, Stamford, and the No. 2 Springfield pumper. During this period a false alarm brought a crew to State street.

Burned-Out Area at Stamford, Conn. Building in Center Background Is Distillery, Which Was Saved.

TWO DECEMBER FIRES IN SAME LUMBER YARD

The second time within two weeks last December, fire struck the Wallace R. Post Lumber Company in Rockville Centre, N. Y. Both fires occurred in the early morning hours and the cause of each is under investigation.

Shortly before 5:00 A.M., on the morning of December 5, a Rockville Centre police cruiser saw smoke, accompanied by a flash, in the sheet metal covered frame premises of the company located at Maple Ave. and the Long Island Railroad viaduct in the village. He radioed police headquarters, which doubles as fire dispatcher, and on arriving at the scene pulled an alarm box. The call was recorded at 5:55 A.M., and when the Rockville Centre firemen arrived the plant was heavily involved with fire and additional companies were called from nearby Lynbrook, East Rockaway and Malverne.

These forces gained control over the blaze at 7:15 A.M. but were taxed to prevent its extension to a block of two-family homes some 50 feet north of the lumber yard. They were also handi-

capped by a freak wind which was fresh out of the N-NW at the outset, with temperature at 40 degrees but at 6:00 A.M. quickly shifted to the east and flames then threatened the outdoor lumber storage. Hardly had hand lines been stretched to cover this new quarter, when the wind veered back to its original quarter. Fire fighters kept the row of exposed dwellings drenched against radiated heat and sparks, and patrols with portable extinguishers were busy chasing embers.

At 5:15 A.M., firemen working from the railroad viaduct (not far from where the first tragic L.I.R.R. collision occurred asked the railroad to "kill" the high-tension A.C. signal wires, and until 7:32 A.M., Montauk Division trains between Lynbrook and Babylon (16 miles) had to operate at 15 M.P.H. without block signals although trains were operated past the scene shortly after streams were got on the blaze.

Loss in the six month's supply of hard-to-get window sashes, doors and other finished products of the warehouse, was estimated at $75,000. The cause of the fire was under investigation by the Nassau Fire Marshal's office.

Early in the morning of December 21, the second blaze in the same occupancy gutted the temporary woodworking shops of the company, burning machinery and trim with estimated loss of $25,000. This blaze also was discovered by a patrolman, who was checking doors.

The cause of this blaze also was not determined, and the matter was turned over to the Marshal for investigation. Fast work by the volunteers confined the fire to the temporary corrugated metal sash and trim finishing shop and a nearby boxcar loaded with trim and flooring.

Heavy smoke rolled over the Long Island Railroad trestle as more than 80 volunteer firemen of Rockville Centre, under Fire Chief Edmond Schmidt, struggled to control the blaze, hampered by the biting cold.

Lines were stretched to cover the boxcar and the shed, the latter being cramped between a large storage loft and the viaduct. The shed is one story in height and measures about 200x200 feet. It contained more than $7,000 worth of machinery acquired to replace that destroyed in the earlier fire.

Two box cars, on the railroad siding, some trucks and pleasure cars, one of them belonging to a volunteer fireman who was unable to remove it when the fire spread, were destroyed, together with a number of light and power poles.

Arson Not Ruled Out

The cause of the destructive blaze was not determined but because of a number of suspicious factors the possibility of arson has not been discarded.

Fire Assistant Chief Joseph Cleary, who directed the fire-fighting operations, said that although the cause is not known, early phases of the investigation established the fact that the blaze started in the lumber sheds of the Blaisdell Company. The possibilities of a short circuit in one of the lumber trucks, or in the building, or of spontaneous ignition are also being considered.

The first alarm was sent in by an employe of the Bradner Radio Company located at West and West Front streets, about a block away from the scene. The fire, when he first saw it, was in the lumber yards. When police arrived at the scene they said flames were burning on top of a freight car and the rear of the lumber shed. From this fact it was believed possible the fire originated in an empty freight car on the siding a few feet from the lumber yard.

Assistant Prosecutor George A. Gray asked police and fire officials to submit a report on all fires in Red Bank and vicinity for five days preceding the near conflagration. Under investigation at the time of this fire, was the $60,000 burnout of the Stardust Inn, a few blocks from the scene of the newest fire.

Police Broadcast Help Appeal

The first alarm was transmitted at 2:32 A.M. from Box 125. This brought the following response from the Red Bank Fire Department: Relief Engine —1,000 GPM American La France;

NEW JERSEY LUMBER FIRE BRINGS BIG MUTUAL AID RESPONSE

Firemen, nearly all of them volunteers, from over 40 Monmouth County, New Jersey, fire departments converged on the town of Red Bank, N. J., in response to appeals for aid in controlling the worst fire in the community's history, on November 1, 1950.

The fire, which destroyed two lumber yards, part of a television plant, and other property, with losses conservatively estimated at $400,000, raged for over three hours before fire fighters got the upper hand.

The property chiefly involved, located in the business district, included the Satter Lumber Company, Blaisdell Lumber Company and the Video Products Corporation. The two lumber yards are located side by side between Burrows place and railroad siding bordering on an extension of North Riverside avenue. The offices of the Blaisdell Company, which front on North Bridge avenue and are separated from the yard by Burrows place, were saved. The offices of the Satter Company, on West Front street, were leveled with the remainder of the plant. The two lumber yards cover about two acres each.

The main building of the Video Corporation, at 42 West street, was partially destroyed. The fire first communicated to this structure in the rear across the railroad tracks and was prevented from spreading throughout by sprinkler heads which let go when the fire reached the building. An adjacent structure, containing 4,000 square feet, leased by the firm and used as an assembly plant, suffered heavy loss. Two other buildings on West street used by the firm were undamaged.

Other properties on West street and West Front street suffered fire damage. A garage housing 15 trucks of the United Parcel Service on West Front street was damaged, but firemen safely removed the vehicles. The garage, about 30 yards east of the Satter plant on West Front street, caught fire in the rear part of the roof, but firemen managed to control it at that point. A luncheonette, opposite the Satter office on West Front street, was badly damaged by radiated heat. The clothing factory of John Savage & Son, adjoining it had numerous windows broken, but firemen saved the structure and directed streams from its roof onto the main fire. A frame building used as a cafeteria, at the corner of West Front street and North Bridge avenue, was damaged. Although the exterior was scorched and windows broken, fire fighters prevented complete involvement.

Families liviing in houses for some blocks surrounding the burning area were routed and left their homes when it was feared they would be ignited by flying embers and sparks. Here, too, firemen were able to prevent serious extension of the blaze.

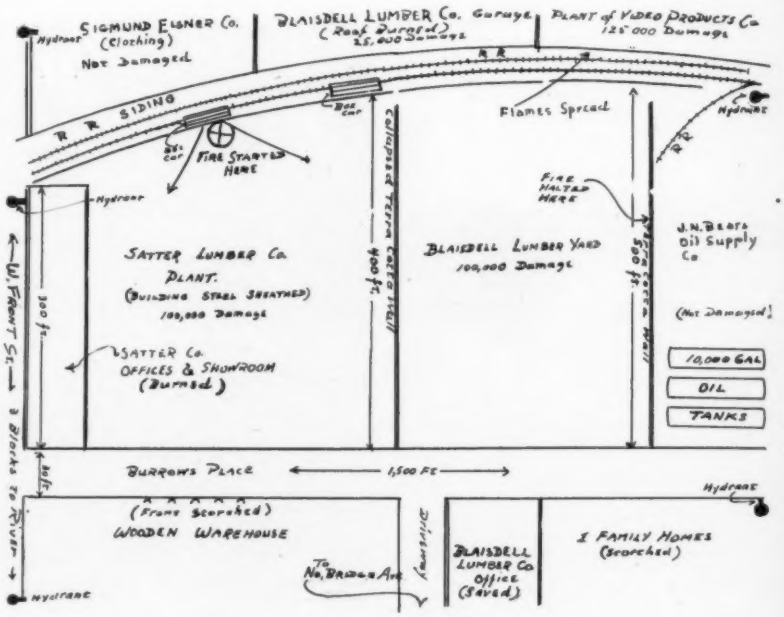
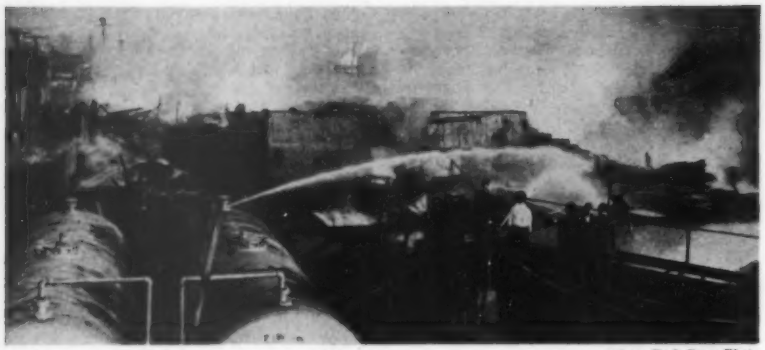


Diagram of Fire Area, Red Bank, N. J.



Asbury Park Press Photo

Red Bank Firemen Man Lines at Beers Coal and Fuel Oil Co., Next to Lumber Yards.

Independent Engine and Liberty Hose both with 1,000 GPM American La France pumpers; Union Engine — 750 American La France, and West Side Engine, also 750 American La France. Also Navesink H & L—75-ft. American La France aerial; the floodlight truck, and two ambulances of the First Aid Squad.

The first call for aid went out at 3:25 A.M. and was responded to by Fair Haven Volunteer Engine — 1,000 American La France and 750 General Motors Comb., and First Aid Ambulance together with Shrewsbury Engine Co., and its 1,000 American La France.

The second assistance call was clocked at 2:35 A.M. and brought the following:

Port Monmouth Engine — 1,000 GPM Ahrens Fox (piston)
Belford Engine—750 GPM Mack
Belford Independent — 400 Diamond T (Combo') Hale
Brevent Park-Leonardo Engine — 600 GPM Stutz Bean Fog Truck
Headdons Corner Engine*—500 GPM American LaFrance
River Plaza Engine*—500 GPM Ahrens Fox
Lincroft—500 GPM White (Hale pump)

Note: The engines indicated (*) pumped from the Navesink River.

At 2:37 A.M. with the blaze still raging out of control and flames visible for many miles, Chief Cleary requested the Red Bank Police Department to contact the Monmouth County Police radio (KEA-317) and broadcast a county-wide general alarm.

The county radio at Freehold sent the following message: "Red Bank requests all Monmouth County Fire Departments to send immediately, all available fire apparatus."

The response was prompt, with pumpers and ladder companies, as well from: Matawan, Keyport, Union Beach, Keansburg, Highlands, Atlantic Highlands, Seabright, Oceanport, Rumson, Monmouth Beach, Long Branch, West Long Branch, Pine Brook, Fort Monmouth, Asbury Park, Ocean Grove, Bradley Beach, Avon, Neptune, Belmar, Spring Lake, Manasquan, Brielle, Wanamassa, Neptune City, Eatontown, Freehold, Colts Neck, West Belmar, Glendola, South Belmar, and Whitesville.

Asbury Park, the only paid department in the county, dispatched a 1,250 GPM pumper from headquarters, with a crew of seven off-duty men under Deputy Chief Edward Hutchinson. Chief Hutchinson said that when he arrived, he found the water pressure good, but said the system was being "over pumped." He is said to have advised Red Bank authorities to cut off some of the pumpers on the line so that several good streams might be had, instead of the numerous inferior streams that conveyed the impression that the pressure was low (and were in many cases ineffective on the fire).

Five of the incoming companies pumped from the Navesink River several blocks distant from the fire. The long layout of hose, however, and the fact that it was uphill grade, helped reduce the pressures on these lines. Also, it was reported that the pumpers at the river, and those relaying (where relaying operations were attempted), were mainly of the 500-gallon capacity, while many 1,000 gallon pumpers stood idly by.

More Help Than Needed?

Not all the responding equipment could be put to work. Some units with booster tanks, however, patroled the area while others stood by. Assistant Chief Cleary reported that 35 hose lines were laid by the local and 30 or more out-of-town fire companies. In the relay operations lines were stretched from pumpers at the river edge to North Bridge avenue and then relayed another block to the fire.

The two lumber yards were leveled first and then the flames communicated to the buildings of the television company.

Burning utility poles and high tension wires handicapped fire fighters and threatened spectators. On three occasions conductors burned out and distribution wires carrying 3,300 volts fell to the ground. Light and power company crews were quickly on the scene and cut off the current until the fire was controlled. Telephone crews also went to work to restore the 500 and more telephones put out of commission by the fire.

Heavy Loss in Clay Products Plant

Fire, following an explosion at the extensive drying plant of the Pacific Clay Products at Los Nietos, near Santa Fe Springs, Calif., on November 23rd last, resulted in one death, injuries to two firemen and property loss estimated at $1,000,000.

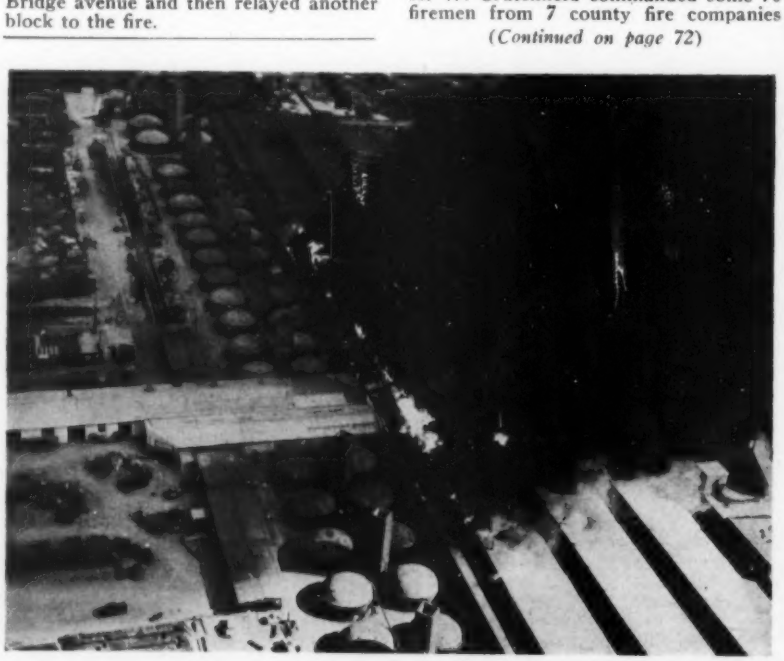
The drying room of the vast $3½ million wood frame plant, one of the largest producers of sewer pipe, was 1,300 feet in length by 400 feet wide. Close by is the Santa Fe oil field, flanked in turn by scores of homes.

Cause of the initial explosion and resulting fire, which was visible 25 miles away, was not determined. Following the first blast, a series of sharp explosions occurred, driving flames through the one and one-half story drying room.

The flames were noticed shortly after noon by a plant watchman who could do nothing to control them. The fire apparently broke out in a tunnel kiln in the center of the long plant, and raced each way to involve the entire structure. Adjoining the ravaged structure were 45 kilns which were reported undamaged by the blaze.

Batallion Chiefs K. E. Klinger and H. W. Crutchfield commanded some 70 firemen from 7 county fire companies

(Continued on page 72)



Flames and Smoke Rise from the Drying Plant of the Pacific Clay Products Company in Los Nietos, Cal., Which Burned with Loss Estimated at a Million Dollars

Chicago Fire Department Girds For Possible Atom Bomb Attack

Signal "9-9-9-9" Sends Entire Department to Battle Stations

(First of Two Articles)

By PAUL C. DITZEL

CHICAGO Fire Commissioner Michael J. Corrigan on November 13, transmitted copies of Chicago's "Operation Civil Defense" to all members of the fire department. The document, referred to as Special Order XXX, outlines the duties of all Chicago fire equipment in the event of an enemy war alert and atomic attack.

Parts of the plan were tried out on September 18, and the fire department plans to put the entire program into a practice run early in 1951.

All chief officers of the fire department and others interested in civilian defense now are attending meetings at the fire department drill school. Questions and problems which might arise in the event of an alert will be discussed. Following these discussions the plan will get a test run to patch up possible deficiencies and improve upon present provisions.

"Operation Civil Defense" is the work of Chief Frank C. McAuliffe, of the Chicago Fire Insurance Patrol and chairman of the fire service committee of the Chicago civil defense committee. Chicago was fortunate to be able to draw upon the knowledge and experience of many other nationally known fire service authorities in building its civil defense plan.

Personnel of Committee

Included on Chief McAuliffe's committee are: Professor John J. Ahern of the Illinois Institute of Technology in Chicago; John H. Arnold, assistant chief engineer of the National Board of Fire Underwriters' Chicago office; William W. Hamilton, manager of the Chicago Board of Underwriters; Elmer F. Reske, manager, Cook County Inspection Bureau; and James Rustic, superintendent of the American District Telegraph Co., Chicago.

Chicago Fire Officers on the committee include Commissioner Michael J. Corrigan, ex-officio member of the committee; John Haberkorn, first deputy fire marshal; plus heads of key branches of the Chicago fire department.

In a letter to Chief Fire Marshal Anthony J. Mullaney, director of the Chicago civil defense committee, Chief McAuliffe described his committee's plan as "a simple and flexible method of operation for the fire department, utilizing only such manpower and equipment that is available at this date."

To Avoid Confusion

Chief McAuliffe expressed the belief that Special Order XXX will "avoid confusion and turmoil inherent in such an (atomic attack) emergency, and will be best prepared to operate with dispatch and reasonable efficiency under an actual atomic bomb attack.

"This special order attempts to cover every phase of fire department operations which will be called into play under an atomic bombing."

Along with Special Order XXX, Chief McAuliffe's committee submitted three operational charts showing: (1) the present location of fire apparatus in Chicago; (2) the location of fire apparatus after an alert has been received and the fire department braces itself for one or more atomic explosions; (3) two most likely targets for explosion of atomic bombs.

The targets are shaded in circular radii embracing Chicago's Loop and near west, north and south sides. This area not only includes the heart of Chicago's business and retail shopping center but takes in a sizable chunk of the city's waterfront and industrial areas. The second target is located far on the south side of Chicago and embraces most of the city's gigantic steel manufacturing plants, plus a long waterfront area.

Special Order Covers Operation

Following is partial condensation of Special Order XXX—Chicago's "Operation Civil Defense":

When the civil defense air-raid warning division receives an alert signal, the fire alarm office immediately transmits Signal "9-9-9-9" by fire-alarm register to all firehouses. This signal denotes Special Order XXX is in effect and all rules, regulations, and special orders with which it may be in conflict are superseded.

The Chief Fire Marshal, doubling in his role as director of civil defense, responds to civil defense staff headquarters and communications center.

The First Deputy Fire Marshal assumes command of the fire-fighting forces in the field under the control and guidance of the fire commissioner. The First Deputy Fire Marshal sets up his command post on the west side (or east, depending upon the location of the explosion) of an incident arising as a result of an atomic explosion, midway between the northern and southern limits of the area that will be devastated and on fire.

The two Second Deputy Fire Marshals shall report to the First Deputy Fire Marshal for orders. The Drillmaster responds to fire alarm headquarters. He cooperates with the Chief of the Fire Alarm Office to maintain communications and deploy companies to best advantage.

Emergency Communications

If either or both fire alarm offices are destroyed, the Drillmaster is responsible for communications and must take steps to provide contact by radio, public telephone, A.D.T., field telephone, or messenger service.

The Drillmaster and Fire Alarm Office Chief shall cooperate in making a study of the possibility of maintaining communications under bombing conditions. It is also the Drillmaster's job to instruct all fire department officers in this phase of Operation Civil Defense.

The Chief of the Fire Prevention Bu-

Atomic Bomb Blast Is Characterized by Flattened Buildings, Myriad Fires of All Sizes and Burning Debris. The Fire Control Problem Is Appalling. There Is Always the Danger of Fire Encircling Large Numbers of Persons Within the Involved Zone.

reau takes charge of supplies and repairs. He shall cooperate with the Automotive Service Engineer and seek to provide food, drinking water, gasoline, oil, and parts, to fire forces in action and make such repairs that may be required to the equipment in the field.

The Automotive Service Engineer shall maintain all mobile units in operating condition in the field. His headquarters will be at the present fire department repair shops on the southwest side and he will establish an alternate headquarters on Chicago's south side.

All off-duty mechanics and service personnel shall report to headquarters of the Automotive Service Engineer or to the nearest Dispersal Station for transportation to their headquarters. The plan cautions the automotive engineer to be constantly aware of the vulnerability of the repair shops and to seek an equitable distribution of reserve stocks of fire hose and supplies.

Radiological Hazards Covered

Professor Ahern shall be in charge of the radiological division of the fire service. He shall work in conjunction with Division Marshals and arrange to have radiological personnel transported to command posts at any atomic incident.

The Chief Medical officer of the fire department shall work in conjunction with Professor Ahern and be responsible for the instruction of fire department personnel in all matters pertaining to radiological protection.

The Deputy Fire Commissioner shall be responsible for the preservation of department records. He shall make necessary plans for their safekeeping in advance, including the micro-filming of basic department records, and activate such plan immediately upon receipt of the alert.

Battalion Chiefs shall respond to one of the 14 dispersal headquarters.

Division Marshals shall be responsible for the proper distribution of apparatus and men to cope with fires in their respective divisions following receipt of Signal "9-9-9-9," and shall immediately contact the dispersal stations in their districts to accomplish that mission. They shall have previous knowledge of all mutual aid agreements which affect their diversions and be prepared to receive out-of-town companies and assign them to duty.

Provisions for Moving Emergency Apparatus

Division Marshals also shall arrange to have a portion of off-duty men report at locations having extra equipment and trailer pumps in their respective divisions. They shall seek the aid of the civil defense transportation division in order that trailer units may be placed in service immediately. In the event that the transportation division is unable to furnish necessary equipment for this task, Division Marshals shall exercise their legal prerogatives in extreme emergencies and commandeer available mobile equipment to fulfill the requirements of this order. Division Marshals shall make previous arrangements for all other off-duty men to report to dispersal stations in their respective divisions for assignment to duty.

They shall retain certain units at dispersal stations to maintain a minimum force within their respective districts. Such forces shall not exceed one battalion chief, one hook and ladder company, and two engines. They shall dispatch these companies to the most advantageous positions after all other companies shall have left quarters.

Division Marshals shall regulate the departure of companies from dispersal stations to the incident at given intervals to avoid congestion and allow officers at command posts the necessary time to assign in-coming companies. They shall leave a company officer as an aide at each dispersal station to keep the day book properly posted and be responsible for dispatching companies and men in accordance with their orders.

They shall report to the Fire Commissioner on all action taken in their respective divisions for the instruction of personnel on the provisions of this order.

All off-duty Division Marshals shall report to the nearest dispersal headquarters for transportation to their units at the incident, or direct to the First Deputy Fire Marshal at the scene of the incident.

All Apparatus Listed

The order lists all engine companies, trucks, squads, battalion chiefs, ambulances, high pressure wagons, water towers, light wagons, smoke ejector, air compressor, gas wagons, mechanical service cars, electrical service cars, and fire insurance patrols, and shows which outlying fire station or dispersal station they are to respond on receipt of the "9-9-9-9" signal. Two of Chicago's three fireboats head for Lake Michigan to a point where they can safely navigate. The third fireboat goes down the Chicago River until it nears Cicero.

Companies inside or near the Loop respond to a tunnel just west of the Loop where they will be afforded some protection from radiation and falling debris.

Special Order XXX states that all companies shall place the fire clothes of off-duty men aboard their apparatus before leaving quarters. In addition, they shall carry five gallons of drinking water in jugs and three gallons of lubricating oil which shall be conveniently located on the trucks.

Engine companies shall carry an additional 500 feet of three-inch and/or 2½-inch hose. All responding companies shall have their gas tanks filled at convenient gas stations after arriving at their assigned destinations. Officers in charge shall sign receipts for gasoline procured in this manner.

In this dispersal operation, companies shall not sound sirens, but shall proceed with safety and dispatch, using the bell only when necessary.

Calling Off-Duty Men

Company officers shall be responsible for calling off-duty men immediately upon receipt of Signal "9-9-9-9." Off-duty men shall report immediately to their designated stations. Unless assigned to extra apparatus or other special details, these men shall know the approximate location of the companies at the incident. They shall be afforded such transportation that can be arranged by the civil defense transportation divisions, or by fire department apparatus, and proceed to their companies.

Mutual aid companies shall be alerted and directed to dispersal stations by the central control division as the needs arise. They shall then be dispatched from these points by the fire-alarm office or by the Division Marshals.

All officers shall ascertain whether their communications have been disrupted following visual knowledge of an atomic bomb burst. If lines are found to be intact, officers shall await orders from the fire-alarm office. The fire-alarm office shall dispatch companies to specific command posts in accordance with Special Order XXX, disregarding the usual running card assignments.

If officers find their communications are partially damaged or destroyed, they shall determine the approximate location of the burst and proceed in that general direction, traveling on one of the mile thoroughfares marked on Map No. 2.

Command posts shall be set up at mile intersections as closely as possible to the incident.

Movement of Fireboats

When the three fireboats arrive at their designated locations they shall stand by for radio orders from the police radio. (The Chicago Fire Department does not have its own radio station.)

If the fireboats find upon tests that their communications are disrupted, they shall proceed toward the vicinity of the incident using care and discretion to avoid any possible radioactive location. They shall seek to contact the civil defense control center or the deputy chief fire marshal at the incident by whatever means of communication that may be available.

Division Marshals shall assign to the fire-alarm office such light wagons and portable generating units as may be required by that department. The fire-alarm repair division shall use these units as a source of power at terminal stations in an effort to restore communications that may have been destroyed.

If communications are not available when companies reach assignments to various quarters, officers shall assign men to stand watches at the highest point in the vicinity to watch for possible fires. If required to leave quarters, they shall post a notation on the instrument board giving their identity, time of departure, and location of fire, or other reason for departure.

The American District Telegraph Company shall dispatch its runners to the North, West and South Side communications centers upon receipt of Signal "9-9-9-9." These runners shall seek to maintain contact with the aforementioned fire companies through their communications or by messengers. In this way, they will augment fire service communications and provide their usual protection to areas not involved in the incident or incidents.

Locating Water Supplies

Officers in charge of command posts shall take immediate steps to locate static water supplies to supplement possible disruption to their usual supply. They shall also contact representatives of the water department on the scene to learn, if possible, what areas are valved off and location of supplies available from that source.

These officers shall maintain their usual liaison with the gas, electric, and transportation companies and aid them in restoring these various services and thus return conditions in their areas to normalcy.

Officers at command posts shall main-

(*Continued on page 72*)

Fire Service Ladders and Their Use—Part IX

The Technique of Testing Fire Department Ground Ladders (Wood)

By ROI B. WOOLLEY

Editor's Note: This, the ninth in the series of chapters dealing with fire department ladders, ladder evolutions, ladder use and preventive maintenance, is devoted to the testing of wood ground, or wall, ladders. It will be followed at a later date by a companion installment on the testing of aluminum ground ladders.

The information contained in this chapter is taken from recommendations originally made by FIRE ENGINEERING as far back as March, 1923, and contained in all editions of the Fire Chief's Handbook. Those earlier test recommendations were developed after careful consultation with the manufacturers of fire department ladders and representative fire chiefs, who use them and maintain ladders. They were adopted by various fire service organizations as standard test procedure for the several different types of wood fire service ground ladders then—and now in use (these types are described in Chapter 1 of this series). They have been republished in succeeding editions of the Handbook, and in FIRE ENGINEERING, in response to repeated requests. And it is interesting to note that throughout all this time no serious criticism of these prescribed test methods has ever been made; nor, to the best of the editors' knowledge, have the methods followed at that time, and up to the present, ever proved unsuccessful.

This latter point is made because of the fairly recent publication by the Forest Products Laboratories, Madison, Wis., of a monograph which advocates dispensing with the testing of ground ladders under the caption "Don't Test That Ladder." This report has received wide recognition—if not acceptance, by the fire service, because of the high reputation enjoyed by the Laboratories.[1]

If time and space permit, this moot subject will be weighed in some detail in a later installment. In presenting the following chapter, however, the editors wish to emphasize that the test procedures advocated herein, and which have stood the test of time, are believed to be a safe minimum standard for testing such fire service ladders and may be taken as a dependable criterion for the safety of such ladders.

At this time the editors gratefully acknowledge the assistance of representatives of the leading manufacturers of fire service ladders who have checked on these established test techniques and offered their comments and suggestions for possible modifications of previous methods to bring them into line with such slight changes in ladder manufacture as have taken place due to modifications and changes in materials used in such ladders, and methods of their construction.

IN considering the following procedures for testing fire department ground ladders, several points must be taken into account; some of these are considerations which we have already applied to the testing of aerial ladders. Briefly these are: The age of the ladders; were the ladders originally of good make; are they of standard dimensions; to what use have they been subject; and have they ever been repaired (if so for what reason, when, and by whom).

Not all fire departments maintain detailed records to cover all these and other essential data. Nor do all departments attempt to record ladder tests in degree. The practice is recommended, however, and it is never too late to inaugurate it. In addition, as suggested in the chapters on testing aerial ladders, it is advisable to gather photographic as well as other evidence of test results—data which can be taken into the offices of fire commissioners and other authorities, if need be.

These factors have a bearing on the severity of the tests to which ladders should be subjected. At the same time, it should be remembered that ladders, whether old or new, weak or strong, may be submitted to the same stress in an emergency. In view of this condition, it must be conceded that a ladder, if unable to stand up under a fair test, should be discarded. That is one of the prime reasons for testing fire service ladders, to determine which ones are unfit for further use. The question naturally rises: what is a fair test?

What Is a Fair and Adequate Test?

Surely the submitting of a ladder to no more than the stress which it might receive in the course of ordinary usage could not be considered satisfactory. The strength of a ladder decreases with time and usage, and if the ladder is just strong enough to answer ordinary usage at the time the test was made, it is possible that the natural weakening during the period between tests might be sufficient to cause the collapse of the ladder in service during that period.

It is for this reason, as well as to guard against possible excess loads in case of emergency, that ladders should be expected to safely carry more weight in test than they would when used in ordinary fire service.

For many years a number of the larger fire departments, some of which have manufactured some of their own ladders at various times, have taken the foregoing into account in setting up the weight limitations permissible, or advisable for testing certain ladders. A number permit only one man at a time on ladders of from 10 to 20 feet in length; two men on ladders from 20 to 30 feet in length; three men on ladders more than 30 feet in length and so on. Some permit as high as six men on 50 and 65-foot extension ladders, depending upon limiting factors such as design, type and make of ladder, placement and so on.

In establishing test procedures it has been customary to set the weight of a man at 175 pounds. The weight of a foot of 2½ inch hose charged with water at about 3¾ pounds.

Considering first the 65-foot extension ladder, the few that there remain in service being of the solid rail type, if there are four men on the ladder, the combined weight of the men is 700 pounds, without taking into consideration any charged hose lines or other weight.

While it is essential to test the ladder for the maximum number of men recom-

Photo by the "Detroit Times"

Fire Service Ladders May Be Called on to Meet Severe Tests

This illustrates how an emergency—in this case the rescue of fireman Andrew Galbraith of Rescue Squad 1, Detroit Fire Department, at a $150,000 fire—placed a severe strain on a department straight beam ladder and on its rungs. During the 4-alarm fire, which swept the Brass Rail Bar, Galbraith wrenched a knee and was brought down pick-a-back on the shoulders of a mate.

[1]Since publication of the Laboratory's report we understand only one manufacturer of fire department ladders has endorsed it, although its broad implications apply more to commercial ladders than fire department products, which are made to greatly higher standards. Test loads applied to a ladder *for which that ladder was designed* should not show or develop any deterioration in the strength of the ladder. On the contrary, only by conducting periodic tests of service ladders can faults or flaws which have developed in actual operation be found in time to prevent possible serious accident.

mended as a working maximum, it would be unfair to test this ladder to a maximum load of 700 pounds, for in an emergency this number might be even increased, in addition to the weight of any hose which may be placed on the ladder. The point is—what is the safe and advisable maximum load for testing that ladder.

The usual past practice, and it has been considered a safe one, has been to take the weight of the number of men

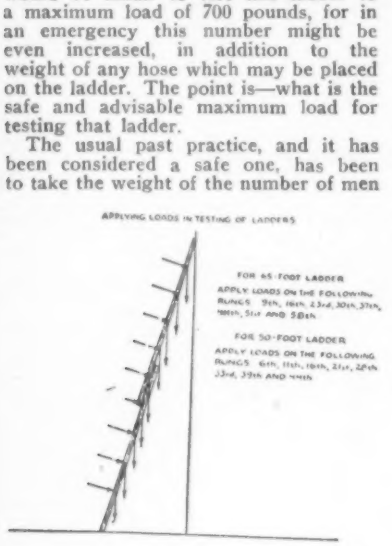

APPLYING LOADS IN TESTING OF LADDERS
FOR 65-FOOT LADDER
APPLY LOADS ON THE FOLLOWING RUNGS 9th, 16th, 23rd, 30th, 37th, 44th, 51st AND 58th
FOR 50-FOOT LADDER
APPLY LOADS ON THE FOLLOWING RUNGS 6th, 11th, 16th, 21st, 28th, 33rd, 39th AND 44th

Figure 1

(on a basis of 175 pounds average weight) permitted on the ladder and test the ladder to twice this weight, not taking into account any allowance for weight of hose.

In the case of the 65-foot ladder therefore, it would be tested to twice 700, or 1,400 pounds. Naturally the load should be evenly distributed along the ladder in units of 175 pounds, the as-

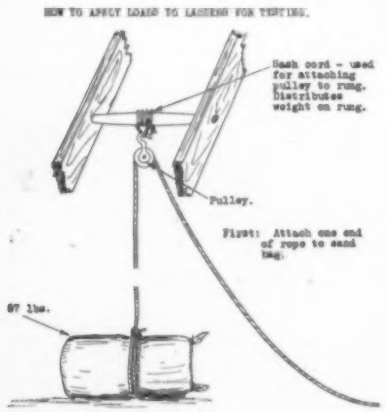

HOW TO APPLY LOADS TO LADDERS FOR TESTING.
Sash cord – used for attaching pulley to rung. Distributes weight on rung.
Pulley.
First: Attach one end of rope to sand bag.
87 lbs.

Figure 2

sumed weight of a man, just as good ladder climbing practice calls for safe intervals between men on ladders.

This same basis of testing for a safe maximum, based upon an average weight of 175 pounds per man, has been generally applied to the testing of fire service ladders of all lengths.

This practice is still successfully followed by a majority of the larger departments and there is at present no direct evidence to warrant any serious modification of this formula. However, some departments and fire schools have deemed it advisable to slightly revise these old test maximums largely in view of the fact that ever since World War II some ladder manufacturers have been unable to secure the same high quality ladder stock that was formerly available, and investigation indicates that ladders are now carried on fire apparatus which contain wood of noticeably inferior quality. This is the main reason some chiefs are revising the limits of ladder loads downward, and making corresponding changes in their test loads.

The following table shows the overload test factors as based upon earlier recommendations and the more conservative limits suggested by one leading manufacturer:

No. of Men Loading	Old Test Procedure	New Test Procedure
2	Test for 4 men	Test for 3 men
3	Test for 6 men	Test for 4 men
4	Test for 8 men	Test for 6 men

Prior to setting the ladder for test, these items should be checked:

(1) Make certain that every rung is tight. No ladder should be tested until all rungs are tight. To do so invites failure.
(2) Check all bolts to be sure they are tight.
(3) Inspect each rail and rung for checks, cracks and evidence of compression failure. This latter condition may be in evidence by a wavy or wrinkled condition of the grain. It is not easily seen but should be suspected until a careful examination proves otherwise.

When the ladder is satisfactory in all these respects, the test can be carried further.

The first step is to place the ladder in position at the proper angle. Fig. 1 shows a ladder so placed with the location of the loads indicated by arrows (details of loading are described later on). For the 65-foot ladder, the loads should be applied on the 9th rung from the ground, the 16th, 23rd, 30th, 37th, 44th, 51st, and 58th. For the 50-foot extension ladder, apply loads on the 6th, 11th, 16th, 21st, 28th, 33rd, 39th, and 40th rungs (see Fig. 1).

We repeat, if ladder is constructed of highest grade stock the average weight of 175 pounds per person can be used and the optimum test load made double the normal ladder load.

Applying the Test Load

About the most satisfactory method of applying the test load, and one which does not entail any danger to the men, is to use bags of sand, each individual bag weighing about half the weight of the average decided upon (i.e.: 87 lbs. per bag if the 175 maximum is used). This allows for rope, etc. To each rung

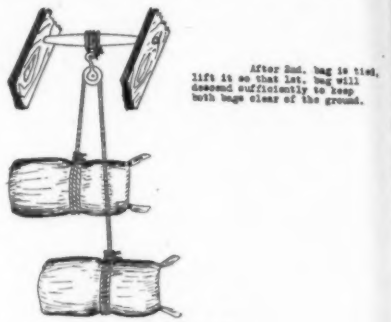


Figure 3

on which a load is to be suspended is attached a sturdy clothes line pulley. The pulley is secured to the rung by a piece of sash cord or quarter-inch rope. Through each pulley is threaded a piece of sash cord or quarter-inch rope of

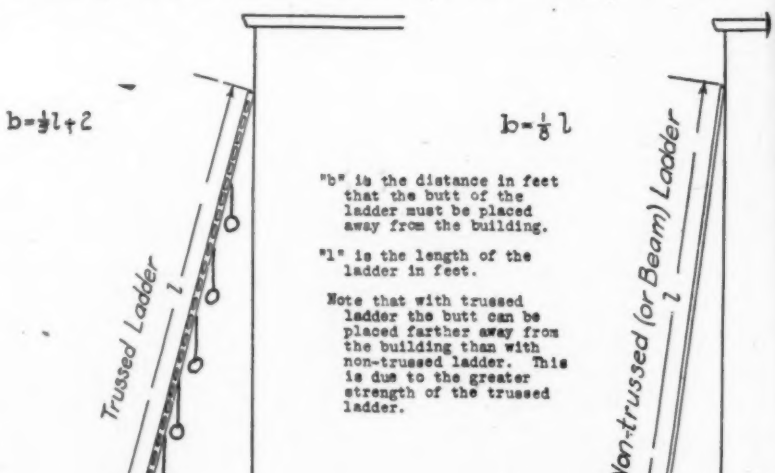

b=½l+2
b=⅛l
"b" is the distance in feet that the butt of the ladder must be placed away from the building.
"l" is the length of the ladder in feet.
Note that with trussed ladder the butt can be placed farther away from the building than with non-trussed ladder. This is due to the greater strength of the trussed ladder.
Trussed Ladder
l
Non-trussed (or Beam) Ladder
l
b
b

Figure 4

In the above, "l" is the length of the ladder, measured in feet. "b" is the distance from the base of the building the butt of the ladder should be placed.

Values of "b" for different length ladders is as given below:

Length of Ladder In Feet	"b" for Trussed Ladder	"b" for Non-Trussed
20	6	3
22	6½	3
24	7	3
25	7	3½
28	7½	4

The formula for non-trussed ladders is not followed strictly in calculating lengths of short ladders.

sufficient length to reach the ground at both ends.

One end of the cord through the pulley is attached to one sand bag, as shown in Fig. 2. Then this bag is drawn up into the air by pulling on the other end of the cord. Then the free end of the cord is attached to another bag, as indicated in Fig. 3, after which the second bag is lifted so that the first bag descends sufficiently to keep the second bag clear of the ground. The two bags together should weigh 175 pounds (the rope and pulley included).

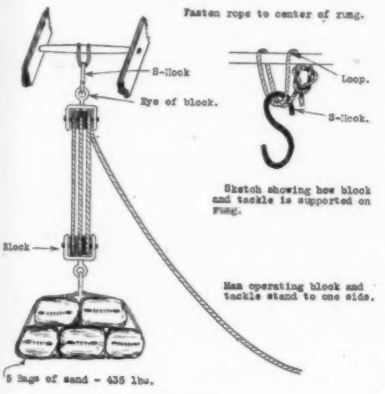

Fasten rope to center of rung.
S-Hook
Eye of block.
Loop.
S-Hook.
Sketch showing how block and tackle is supported on rung.
Block
Man operating block and tackle stand to one side.
5 Bags of sand - 435 lbs.

Figure 5

This method, if all the cords are threaded through the various pulleys before the test starts, permits adding on the load gradually without endangering the men adding the load.

The bags are suspended as shown in Fig. 3.

The rungs to which the loads should be attached on these ladders are indicated in the following table:

Length of Ladder in Feet	Rungs to Which Loads are Attached
20	6, 8, 10, 12, 14
22	6, 8, 10, 13, 16
24	6, 8, 10, 13, 16
25	6, 9, 11, 14, 17
28	6, 9, 13, 17, 21
30	6, 10, 14, 18, 22, 26
32	7, 11, 15, 19, 23, 27
35 Ext.	7, 12, 16, 21, 25, 30
36 Ext.	7, 12, 16, 21, 26, 31
40 Ext.	8, 13, 18, 23, 28, 33
50 Ext.	6, 11, 16, 21, 28, 33, 44
65 Ext.	9, 16, 23, 30, 37, 44, 51, 58

Testing 20- to 28-Foot Ladders

While a number of large fire departments permit only two men on ladders between 20 and 30 feet in length, which in test (using the maximum figure of 175-lb. per man) would mean 4 x 175, or 700 pounds, the relative proportion of ladders of this size as compared with the larger sizes, would permit a little greater weight. A test load of 5 men (or 875 lbs.) is suggested by some, for ladders from 20 to 28 feet in length.

Figure 4 shows the placement of ladders during the test.

Straight ladders under 20 feet in length, are tested under four loads of 175-pounds each (equivalent to a total of 4 men).

Extension ladders under 20 feet in length (18-ft., 16-ft., or 12-ft.) are tested under three 175-pound loads (equivalent to three men).

The placement of loads on these ladders is similar to those previously described.

The testing of fire department ladders does not end with the determination of their ability to carry load. The rungs, too, should be submitted to as thorough a test.

The rung of a ladder may be subjected in service to the combined weight of, a fireman and a person being rescued. Assuming the weight of each is 175 pounds the total load of the rung would be 350 pounds. In testing rungs an allowance of 100 pounds should be made as a safety factor, making the total load to which a rung is subjected, 450 pounds.

The usual method of conducting this test is shown in Fig. 5. A block and tackle, using quarter-inch or half-inch rope, will answer the purpose. For the load, the five bags of sand used in the previous tests can be employed. The five sacks will, with tackle, give 450 pounds.

The five sacks are roped securely together. The two ends of a piece of rope 4-feet long are tied securely to form a loop. This loop, together with an "S" hook comprise the method of supporting the load on the rung, as shown in Fig. 5.

The hook one one of the blocks (of the block and tackle) is attached to the "S" hook and the loop of the rope at the center of the rung to be tested. The pull rope of the tackle is then played in until the lower block is sufficiently low to hook to the ropes binding the bags of sand. When these bags are hooked on, the tackle is operated until the bags are clear of the ground.

If it is desired to make the test a little more severe, the bags can be swung from side to side to simulate a moving load such as is encountered in actual service.

Each rung should be tested in a similar manner.

This procedure avoids unnecessary risk to the men carrying on the tests.

After the foregoing tests, the ladder should show no deformation when the test loads are removed. Any ladder that will not stand this loading without undue deflection, or that takes a permanent set, is questionable for fire department use and should be replaced. As stated, the loadings suggested are less than maximum loadings that ladders should be capable of supporting without signs of undue stress.

Ladders should never be tested by loading them while in horizontal position.

Private Fire Department Grows

Suburban Phoenix, Arizona, is the home of one of the most unusual fire departments in the country—a private fire department with six fire trucks, a payroll of 25 firemen and 5,000 subscribers. This novel fire-fighting outfit, headed by 25-year-old Louis Witzeman, is featured in the January issue of Pageant magazine in an article titled "He Bought a Fire Engine."

Witzeman's private enterprise fire department, called the Rural Fire Protection Company, gets its revenue from the sale of annual subscriptions, ranging from $12 up, to homeowners, businessmen and farmers in a 101-square-mile area around Phoenix. It is now the third largest fire department in Arizona, outranked only by the municipal departments of Phoenix and Tucson.

Before it was started in 1948, the big produce packing sheds along Phoenix' "Lettuce Row" were burning down at the rate of one a year. Not a single shed has been lost since then. And Witzeman and his smoke-eaters have saved a big public school, a $1,500,000

(*Continued on page 73*)

During Stress of Fire Fighting and Rescue Operations, Ladders May Be Subjected to Overloads. Shown Above Are Four Firemen with Charged Line Trying to Make the Second Floor at a Sponge Rubber Plant Fire in Brooklyn, N. Y., Some Time Ago

Pasadena Peps Up F. P. Week

Highlight of the Pasadena, Calif., Fire Prevention Week drive this year was the burial of "Charlie Careless," after an appropriate funeral cortege down Colorado street to the W. T. Grant department store, where "services" were held.

"Digger" O'Dell (Right) and Assistant, Ollie Prickett (Left), Leading the Procession. Walter O'Keefe Is in the Background

Digger O'Dell the "friendly undertaker" of the "Life of Riley" radio program, aided by his assistant, Ollie Prickett, radio quizmaster Walter O'Keefe, Fire Chief S. H. (Step) Edmondson and Fire Marshal Russell E. Stone — not to forget five beauteous Playhouse actresses and models who rode the city's smartest aerial ladder truck in the cortege—all contributed to the occasion.

Special records of "Digger O'Dell" were especially provided for the affair by N.B.C. One set played during F.P. week at Grant's, the other being used during the school observations of F.P. Week. These records were heard by 5,350 people during the 22 times they were played.

Enlarged portraits of Digger O'Dell were placed in windows during the week, calling attention to his personal appearance on Saturday. Radio Station KWKW broadcast spot announcements and played the "Digger" records. A tape-recording of the "services" was later broadcast. Radio Station KXLA also broadcast spot announcements.

In the funeral "procession" appropriate signs relating to the F.P. Week contest (which was a feature of the week) were carried on lead cars. Ten private cars which followed, bore fire prevention slogans.

A New "Cure" for Sluggish Fire Motors?

One of the problems facing the fire service has long been that of quick getaway and peak performance operation at all times of internal combustion engines on its vehicles. The problem is particularly acute in fire departments where runs may be few and far between and where fire stations are not well heated.

Although unhappily conscious of the results of slow starting and related "balkiness" a great many fire officers and apparatus operators have not been able to put their finger on the basic causes of the trouble, which are in the main, the accumulation of sludge, and oil acid conditions in the oil pan, in turn, the result of condensation and cold engines.

Most drivers know that starting a cold engine results in water accumulation in the crank case, or oil pan of such engines because of condensation caused by the change of temperature, cold to hot. The condition repeats itself when the engine cools down.

The water accumulation results in the formation of sludge and is the contributing cause of the oil-acid condition frequently found in the oil pan supply of engines subject to these conditions.

One of the latest developments aimed to remedy this ill is described as the "Hess Normalizer". It is the invention of Ralph D. Hess, fire equipment engineer with the Headquarter Air Training Command, Mascoutah, Ill.

Use of the device is said to prevent accumulation of water in the oil pan, and subquent damage, because no moisture can collect in the oil pan inasmuch as no temperature change occurs as a result of starting the engine. No moisture means no condensation. The "Normalizer" is said to make use of the choke unnecessary and to provide faster starting, and acceleration with no back-firing of cold engines. A further argument in its favor is said to be its ability to enable the engine to immediately begin pumping operations, no warm-up being required while peak performance is being demanded of a cold engine.

With the improvement resulting in engine operation, wear and tear is saved on batteries and starters and there is greater economy in fuel usage. The station house "daily warm up" which this Journal has long discredited but which some fire departments continue to employ, may now be a thing of the past.

The device which is a simple attachment to the engine and to the crankcase, is intended to accomplish these, and other improvements by pre-heating of the engine and lubricating oil.

New Hess Normalizer

The device is shown in the illustration herewith. The larger cylinder contains an electrical heating element. The two fittings on it (pointed upward) are connected respectively to the water hose at the top of the engine block and to the bottom of the engine radiator by means of tubing. The smaller cylinder at the left consists of concentric cylinders, the outer one being capped as shown. The inner one is open at the end.

Water heated by the electric heater passes, in a closed circuit, from outlet "A" shown on the illustration, through tubing to the hose connection at top of engine block. From the bottom of the engine radiator, it returns through tubing to connection "B." From here it passes through cylinder "C" and returns to heater unit through inner concentric cylinder in "C."

Circulation of the water is brought about by the principle of thermosyphonage, the heated water rising and the cooler water flowing downward. No moving mechanical parts whatsoever are employed.

Left to Right: Chief S. H. Edmondson (at the Microphone); Winner of Third Prize (with Cane); Walter O'Keefe; "Digger" O'Dell, and Ollie Prickett

New Booklet on Automatic Sprinklers

"The Automatic Sprinkler System—an Invaluable Auxiliary to Water Utilities, Municipalities and the Public," is the title of a new booklet just issued by the National Automatic Sprinkler and Fire Control Association, 205 East 42d St., New York 17, N. Y.

The booklet sheds additional light on the comparison between sprinklered and unsprinklered properties, from the viewpoint of the conservation of water as well as the control of fire. It describes the purpose of the automatic sprinkler system, its effect on water supplies, and discusses water department cooperation. Furthermore, it presents convincing arguments for the use of sprinkler systems, which all students in fire protection should have at their command.

New York Fire Department Subject of Inquiry

Considerable press publicity has been given an inquiry into the New York Fire Department by District Attorney Frank S. Hogan, as a result of which, it is reported, "mass resignations" from the department may be imminent.

The prosecutor reveals that he has started a grand jury investigation of "reports of extortion, among other things" in the department. The action was decided upon, according to Mr. Hogan, after he had been quietly conducting an all-inclusive study of the 11,000-man force and "had come across unspecified 'interesting' " evidence.

According to the press accounts, before Mr. Hogan is finished many members of the force, "ranging from the lowest-grade firemen to some of the highest-ranking officers" plan to put in their papers.

Included among officials to be called, it is reported, will be Fire Commissioner Frank J. Quayle, who has resigned and is to be succeeded by George P. Monaghan, Assistant District Attorney in charge of Mr. Hogan's Homicide Bureau; and former Deputy Fire Commissioner James J. Moran who, last July, was appointed as Commissioner of the Board of Water Supply by former Mayor William O'Dwyer.

Truckloads of records of the Fire Department have been delivered to Mr. Hogan's office for study, it is said. These records pertain to 800,000 premises in the city and deal with permits, licenses, applications and renewals, dating back to January 1, 1946.

It is said that Mr. Hogan's office will also study the sales of tickets by members of the uniformed force.

November Fire Losses

Fire losses in the United States during November were the highest recorded for that month during the twenty-two years for which detailed records are available, totalling an estimated $55,790,000, it was announced by W. E. Mallalieu, general manager of the National Board of Fire Underwriters.

This represented an increase of 5 per cent over losses for November, 1949, and an increase of 11.7 per cent over the total for October, 1950.

The total estimated loss for the 12-month period ending November 30, 1950, is $688,919,000, an increase of 2.9 per cent over losses of $669,654,000 for the 12 months ending November 30, 1949.

For the first eleven months of 1950, fire losses totalled an estimated $621,640,000, as compared with $600,257,000 for the same period of 1949. This was an increase of 3.6 per cent.

These reported losses under fire insurance policies include an allowance for uninsured and unreported losses.

Blasts Mark Covington Gasoline Storage Fire

Eighty-four firemen from seven Covington, Ky., fire stations battled a raging fire for four hours on September 2, 1950. The fire was accompanied by four explosions that caused injuries to two workmen. The men, both pipefitters, were reported critically burned. A spectator suffered a severe cut on the nose when struck by a hose nozzle. Two Covington firemen were slightly burned in the struggle.

Smoke from the burning petroleum storage tank billowed high in the air, wrecking the installation and one of the loading barges owned by the Ashland Oil & Refining Co. on the Licking River. The flames threatened to spread to other storages but were confined by fire fighters, working in a constant downpour of rain, and who several times were driven from their positions by the explosions.

The blaze apparently started when the company pipefitters were piping gasoline from one storage tank to another. Fire Chief Walter A. Salyers said a spark from a faulty pump could have been the cause.

The initial explosion of the tank's 12,000 gallons of gasoline burst the container and spewed flaming gasoline, which ran free to the river bank, surrounding the barge, which ignited and in turn caused other blasts, ripping apart its decks.

Firemen were praised for their efforts in braving the flying debris, heat and danger of additional explosions. Exposures were kept constantly cooled and large quantities of foam were used on the burning tank and spill.

It was said that normally the gasoline would have been contained inside a four-foot concrete high wall surrounding the tank if a rain drainage valve had not been left open.

All Covington apparatus was at the scene, aided by three companies from South Fort Mitchell, Ludlow and Newport, which moved in to cover the city. Emergency utility crews shut off electric service in the area.

Unified Air Raids

A uniform nation-wide code of air-raid warning signals was announced on Dec. 14, by Federal Civil Defense Administrator Millard Caldwell. The system was made effective "at once."

The "red alert" signal for imminent attack by enemy bombers will consist of a three-minute warbling blast on sirens. Where sirens are not available, three minutes of short blasts on horns or whistles will be used.

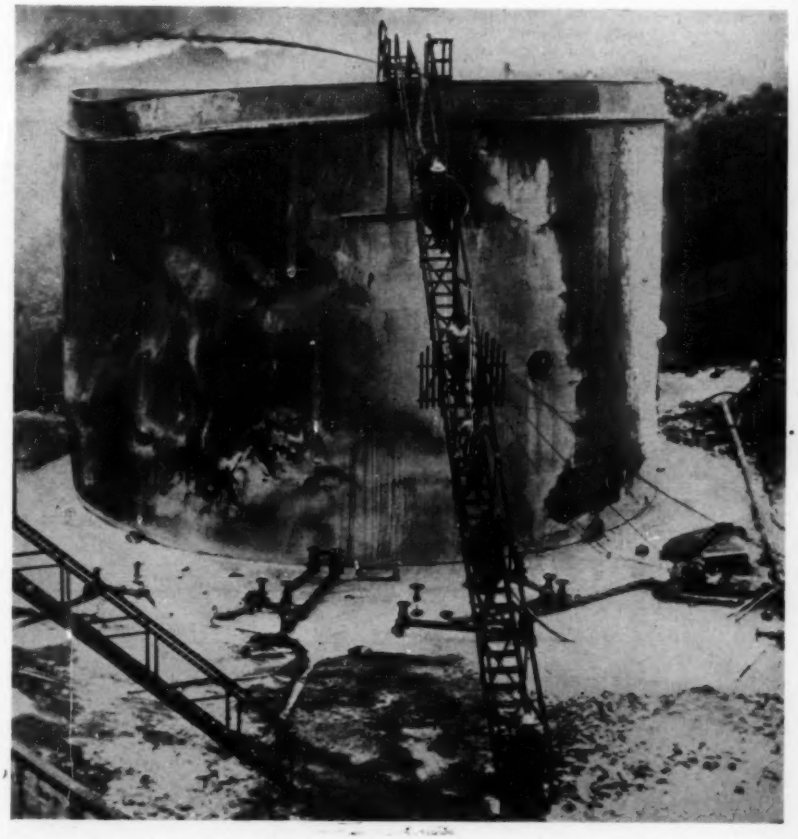
The "all-clear," meaning that danger has passed, will be a series of three steady one-minute blasts by sirens or whistles, interrupted by silent periods of two minutes each.

Mr. Caldwell said radio and television broadcasts "should not be used" to convey air-raid warnings "at this time."

Syracuse Fireman Killed

Lieutenant William Egan, 55, a 23-year veteran of the Syracuse, N. Y., Fire Department, was burned to death in a general alarm downtown fire which swept through two stores, a grill, tailor shop and laboratory, on December 9, 1950.

Lieutenant Egan fell through a skylight into the heart of the blaze.



Firemen Beat a Hasty Retreat Down Ladder at Covington Tank Fire in Anticipation of Another Explosion.

Ten Die in Halifax Department Store Flash Fire

A freak fire which flashed through Kay's Barrington Street Department store in downtown Halifax, Canada, during the supper rush hour, claimed ten victims among the store staff and holiday shoppers late in November.

The fire broke out at 5:30 P.M., blasting out the front windows and sending parts of the store awning high into a tree on the opposite side of the street. The blast caught the first crew of fire fighters on the scene but fortunately none was seriously injured.

A salesman was in the store's front window dressing a mannequin when a blaze flared up. The man threw a coat over the fire but it got out of hand and he ran back to get a fire extinguisher. In the interval, the fire involved the entire show window and, within twenty minutes, it had raced through the store.

Witnesses spoke of the manner in which flames burst "angrily" from the store front, consuming most of the awning, which had not been folded down at the time, and then spread into the establishment.

According to the store manager, ten of the staff were able to escape through the two front doors of the store. The only other exit from the building was through the skylight on the roof. Two youths are reported to have led three other employees to safety by this route. As they were climbing through the skylight, they reported hearing the floor give way beneath them.

The proprietor of a nearby store turned in the first alarm but before all the firemen could get into action the whole front window blew out. The manager of Kay's ran into the street to turn in an alarm from a next door store.

Fire Chief Fred C. MacGillivray said the blaze was so far advanced upon arrival of firemen about 5:35 P.M., only five minutes after the outbreak, that his men could not enter the building. As flames licked up the front of the structure, heavy smoke issued from the top floor. However, until about 6:00 P.M., except for the roar of the blaze and dense smoke, little actual fire could be seen. At approximately 6:10 P.M., forty minutes after the outbreak, the roof collapsed and the smoke cleared to enable fire fighters to see the flames and get water directly on them from ladder pipes and other vantage points. Two hose streams were directed into the fire from adjoining roofs, and at 6:30 P.M. six heavy streams were in operation on the blazing structure. Soon after there were a total of ten in action.

At 7:30 P.M., the aerial ladder was removed from the close proximity to the front of the building as walls threatened to come down. The floors were on wood joists and almost the entire contents of the building were combustible.

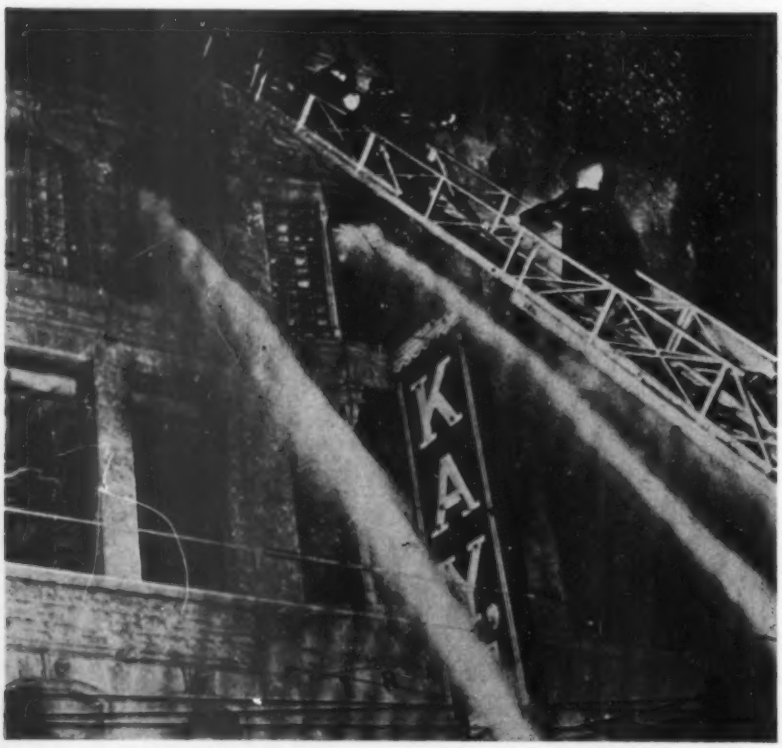
Firemen directed their efforts to confining the fire in the four-story structure as the blaze threatened to spread to the Granville Building and others in the Kay building's rear.

The only possible exits from the store's rear are three windows, all barred as a precaution against burglars. Witnesses spoke of hearing screams coming from behind these windows.

Firemen recovered ten bodies from the store before having to abandon their search because of darkness. Later search failed to find further victims. Four of the dead were said to be employes; the others, shoppers. One employe was hospitalized with back injuries, and a number of others, together with some firemen, were given first aid treatment.

Monetary loss to Kay's alone was placed at $400,000. Other stores which suffered smoke and water damage, included Connolly's Book Store; Offman's jewelry store; Belgium Glove and Hosiery, Ltd.; and the Granville Building, containing business offices and stores fronting Granville street.

Long Beach Firemen Figure It's "Time to Retire"
When this oil tank went up in a flash of flame during a salvage yard fire in Long Beach, Calif., on Nov. 3rd last, several fire fighters who were trapped momentarily between the blast and a high wire fence took cover behind a pile of crates (right). More than 60 firemen fought the stubborn, hot blaze over a six-acre area. In addition to the loss in fuel oil, about 200 crated airplane engines and several buildings were destroyed or damaged.



Kay's Department Store, Halifax, N. S., After Fire Had Been Extinguished. Firemen Are Shown Removing Body of Victim

Extra Alarm Association in Permanent Quarters

Cincinnati's organization of fire buffs, the Extra Alarm Fire Association, has moved into permanent quarters. The address is c/o Robert Herweh, 2128 Madison Rd., Cincinnati, Ohio.

Short Cuts and Gadgets

WHEN THREADS DON'T MATCH

The war defense emergency brings one problem to the nation's fire service that was current in the World War II emergency—and about which little or nothing has been done by way of solution since that time. That is the problem of non-standard vs. national standard hose threads.

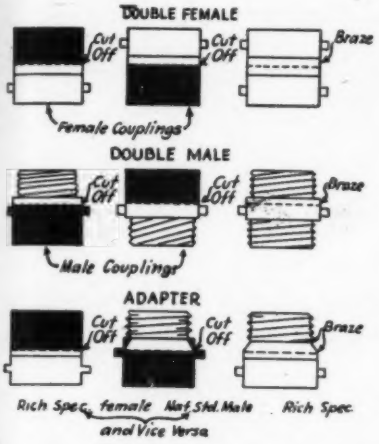
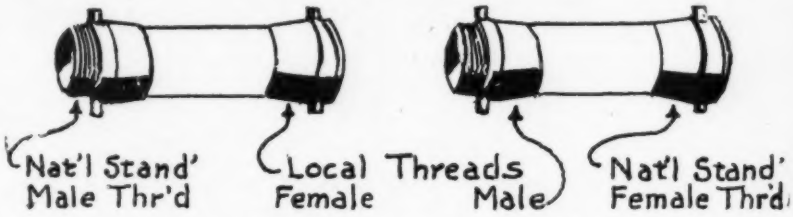


Diagram of Method of Interchanging Male and Female Couplings to Make Improvised Adapters

The threat of atomic bombing of our target areas and the importance placed upon mutual aid response as an essential for defense against such attack emphasizes, more than ever before, the need of standardization of hose and hydrant threads, and of providing some forms of emergency hookups and/or adapters where standardization is lacking, or where for any reason conversion to standard threads is impossible.

Dating back before World War II, FIRE ENGINEERING has published various methods and "short cuts" for temporarily overcoming this handicap. In answer to requests from many of our readers, we are pleased to devote this installment of "Short Cuts & Gadgets" to a review of the more practical and feasible of these emergency measures. If any of our readers have other suggestions which they might care to contribute, they will be welcome.



Another Form of Improvised Adapter Made Out of Interchanged Couplings on Short Lengths of Standard Hose, Advocated by OCD in Last War

An O.C.D. Expedient—Interchanging Hose Couplings

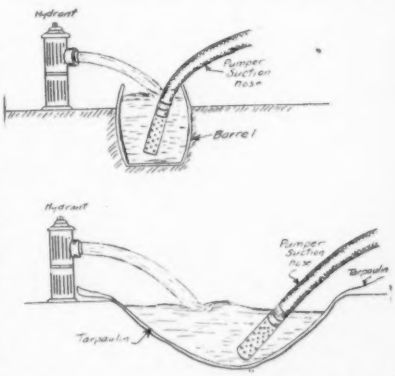
Many cities which received O.C.D. emergency fire fighting equipment, hose and 500 G.P.M. pumps during the last war, found that National Standard Threads on such equipment unsuited for use in their areas because they did not use the NS thread. A number of such municipalities at least partially overcame this obstacle by making adapters for each O.C.D. pumper, thereby enabling connections to be made to local hydrants, nozzles deluge sets, pumpers, ladder and wagon pipes, water towers, building standpipes, sprinkler systems and all other fire fighting equipment of their departments.

The expedient adopted consisted of procuring several complete, used, NS couplings and brazing the male of one coupling to the female side of the other. The same procedure was followed in brazing the female NS couplings to the local departments' male couplings. This provided good working adapters. Double male and female connections can be made just as easily, and at low cost, using the couplings of discarded, or damaged hose.

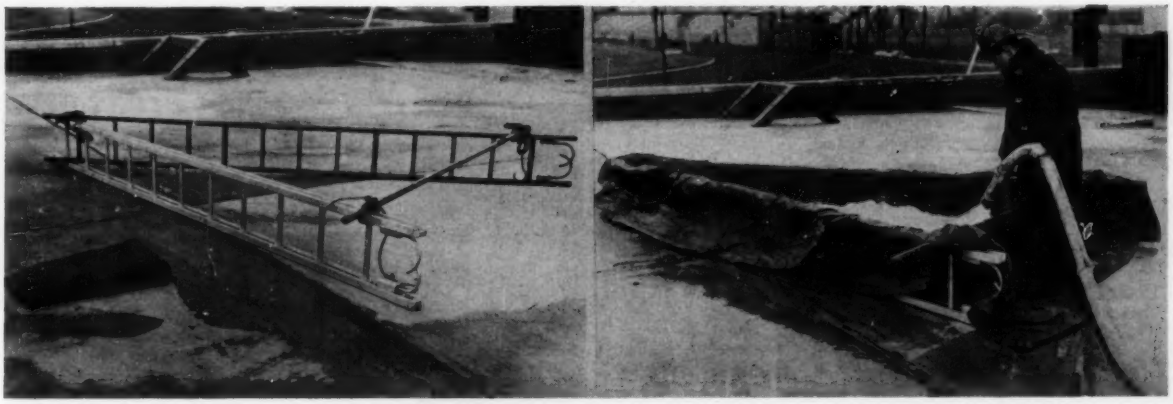
The accompanying illustration shows how it's done.

A slight variation of the above was also widely used during the last war. This was to use two sets of couplings on short pieces of regulation hose, as illustrated.

This practical expedient enabled each department having non-standard hose threads to have adapters converting the local thread to the National Standard. Best results came from having each piece of hose-carrying apparatus in the



Two Improvised Methods of Using a Hydrant Where Pumper and Hydrant Threads Do Not Match



Photos by Joint Committee on Evolutions, F.D.I.C.

How to Make and Use an Emergency Reservoir

(Left) Framework of reservoir or "dam" is made of roof ladders, pike-pole and hose straps (or other fastenings). Salvage cover is placed over frame (right) and supply hose feeds into tarpaulin, while pumper suction takes water at other end (suction not shown). Dam can be set near hydrant and supplied direct from hydrant outlets.

When Suction Hose Threads Don't Match! Showing Use of Two "Amputated" Lengths of 2½-Inch Hose Feeding Into Regulation Pumper Suction Sleeves in Improvised Hook-Up. The Same Idea Can Be Adapted to Emergency Relay Connections

community having the non-standard thread, equipped with a set of these adapters. Additional such adapters were kept on hand at headquarters, or where they were quickly available, or given to departments due to respond on mutual aid or assistance calls.

A single set of such adapters, permitting hookup between the non-standard thread equipment and the National Standard thread, served to meet most requirements.

The same idea may be followed to make adapters for connecting two non-standard threads. Connection can also be made by use of two adapters to convert each of the non-standard threads to National Standard. Complete flexibility of operation is secured by providing adapters for converting both male and female threads to standard.

To prevent confusion and save time in making hookups, the coupling of each adapter having National Standard threads should be clearly marked for identification.

Where There Are No Adapters

Another expedient, which does not depend upon improvised adapters, but works out in a pinch, makes use of a combination of pumper suction hose and 2½-in. feeder lines. This is sometimes used in making up relays where it is impossible to connect feeder lines to the relay pumper because of the difference in thread connections. It can be undertaken as a substitute for a "dam" or reservoir (such as the use of a large barrel).

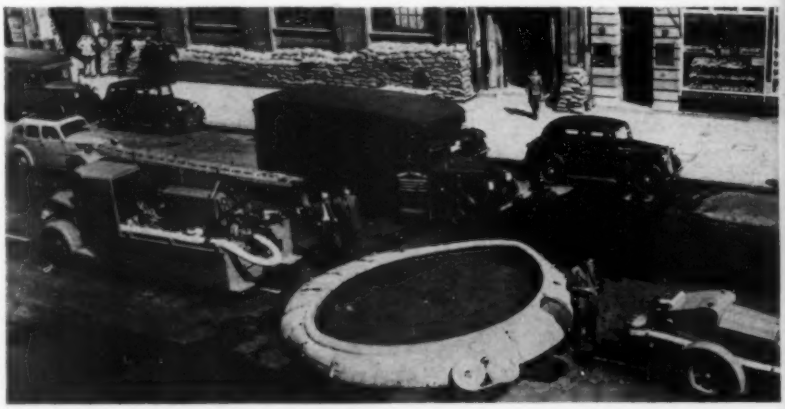
This idea, developed by Captain S. Brooks of the Motor Division of the Toronto Fire Department, was first described in the October, 1949, issue of FIRE ENGINEERING.

With this setup, pictured above, as soon as the pumper responding on the mutual aid call arrives at the scene of the fire, it pulls up at one of the hydrants and connects up the two lengths of hard suction hose to the suction side of the pump. The other end of the suction line is tied to a short ladder at the rear of the pumper or to a pole or tree, in such fashion that the end of the suction sleeve will be above pump level.

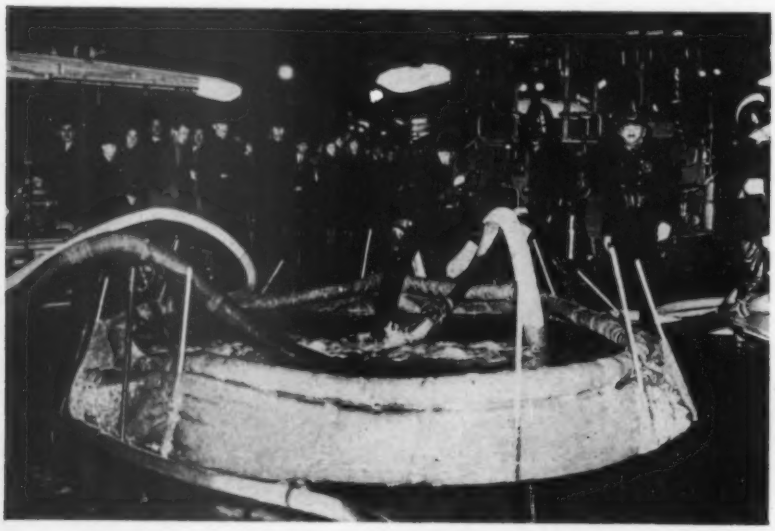
Next, two 50 ft. lengths of 2½-in. hose of the department of the community that requested aid (coupled to fit the outlets on the hydrant) are connected to the hydrant and the male ends of each length cut off. These amputated ends are then shoved down into the hard suction sleeve as far as they will go and lashed in, so that the pressure when applied will not pull them out.

The hydrant man then partially opens up the hydrant so as to fill up the hard suction hose, allowing the water to spill out of the end that is tied to the ladders. The pump is primed and as the pump is speeded up the hydrant is turned on further so as to keep enough water spilling out of the high end of the suction hose. This procedure provides ample water for the pump, if the hydrant affords sufficient supply.

It is reported the idea can be used in an emergency to round out relays where no hydrants or other sources are available, and threads won't fit.



British Type Emergency Reservoirs Are Good Expedient in Thread Troubles. Almost Any Sort of a Reservoir or "Dam," from Improvised Barrel to Wartime Emergency Reservoir Such as Shown Herein, Can Be Made to Substitute for Hydrants. Street Temporary Auxiliary Fire Service Reservoir in Farrington Road, London, Used During Last War



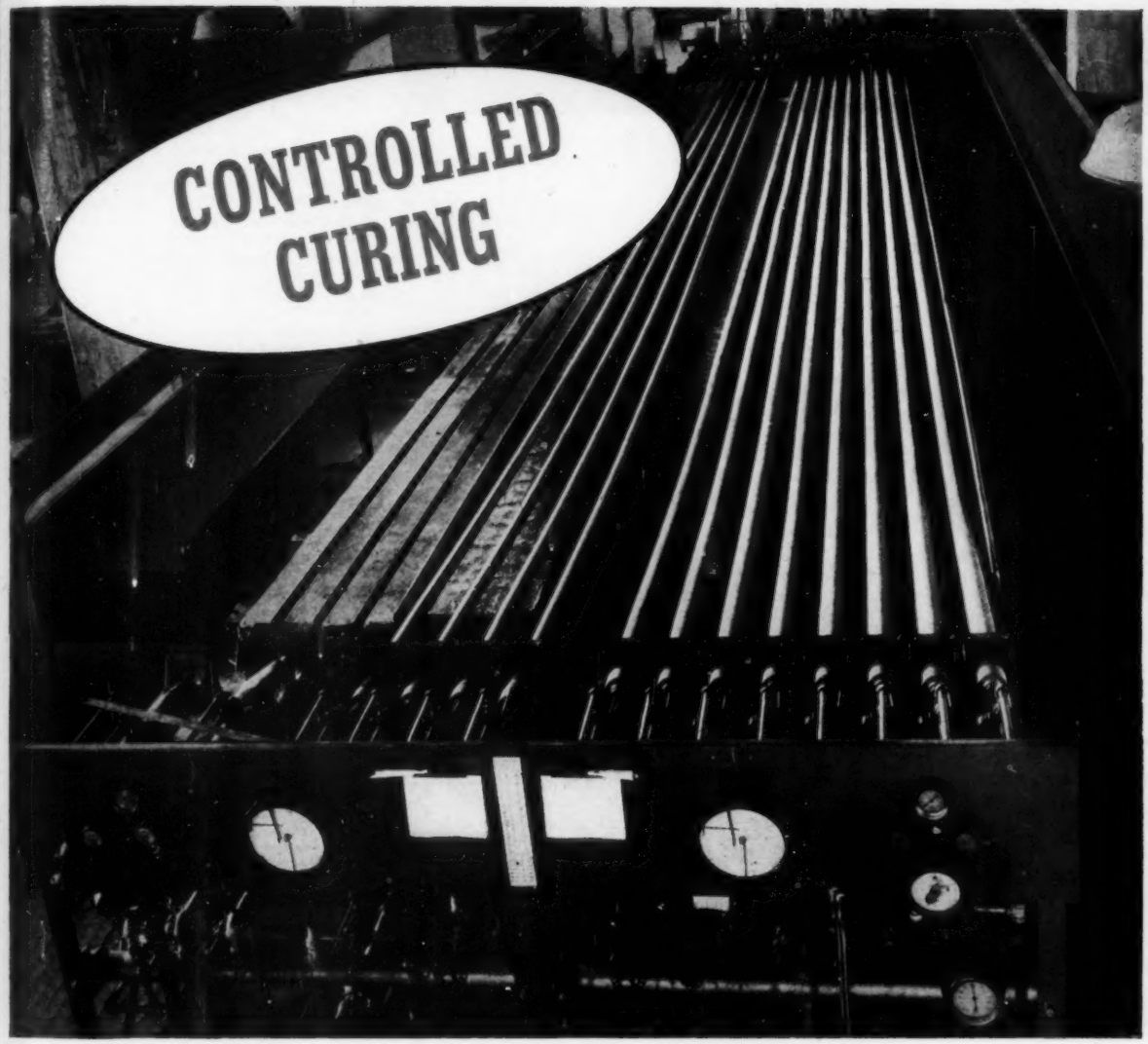
Another Anti-Air Raid Canvas "Tank" Set Up for Preview on Oxford Street, London

British Used Dams and Tanks

The idea, pictured here, used by the British as auxiliary water supply reservoirs during World War II, might be applied to conditions where for any reason pumpers are unable to connect with hydrants, or hook up pumper-to-pumper in relay combinations.

Canvas "tanks" can quickly be set up, using a suitable canvas tarpaulin or other container, supported by metal or other braces. The entire "tank" when disassembled and rolled up, need occupy little space and could be carried on a piece of apparatus. If hydrants are available so they can discharge directly into the reservoir from open steamer outlets, this is preferable to discharging through two 2½-in. hose lengths with open butts.

(*Continued on page* 46)



for "CONTROL IN ACTION"

Both the lining and the jacket of a fire hose are important factors in insuring reliable performance under the most extreme tests of service.

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The WATCH DESK

Overhauling the firemanic news of the day

by ROI B. WOOLLEY

Embarrassing Moments in Stoneham

The Stoneham, Mass., Fire Department spent considerable time this year in preparation for the annual Fire Prevention Week drive. Checkups were made on all town buildings, fire drills were held in the schools and there were lectures given by fire officials.

Under guidance of the chief and officers of the Department the townsfolk were alerted and took extra precautions. There were only two fire alarms during the period. One was in a television set at the home of Valentino Mattagno, 8 Maple street, the other in the trailer home of Roy Sorenson, 81 Summer street. Ironically, both of these individuals are permanent firemen!

* * *

Traffic Scrambled in 6,000-Egg Omlet Road Tie-Up

Traffic on the approaches to the Holland Tunnel, scene of the disastrous carbon disulphide explosion, was all snafu for more than an hour, not long ago, when a truck bearing 64,800 eggs overturned and 500 dozen eggs were spilled out on the highway.

The accident occurred in the roadway of the Lincoln Highway cut in Jersey City, an approach to the Holland Tunnel. The egg-laden truck capsized in the depressed highway, when the driver attempted to stop suddenly, and swerved to miss a truck ahead. He was treated for shock and leg injuries.

Emergency squad policemen, aided by firemen, righted the truck after removing what was left of its damaged and undamaged cargo, then firemen hosed away the broken eggs, "flavored" with spilled gasoline into a sewer.

No fire, but the emergency crews were plenty "burned up."

* * *

Concerning the Very Young

In Fair Lawn, N. J., eight-year-old Jack Erceg will probably pull through after receiving second-degree burns on arms, legs and face. Jack hid in a big paper bag, which an elder brother touched off.

Theodore Pebler, Jr., aged three, of Selkirk, N. Y., died when fire destroyed a doghouse in which he was playing. State police said matches ignited excelsior on the floor.

Three chidren died of suffocation in their home in Idaho Falls, Idaho, when fire struck during the absence of their parents from the house.

Near Ava., Ill., four boys and their grandmother died in a fire which destroyed their rural home—a one-and-a-half-story frame structure with only one exit at the rear—and an oil stove near that exit. The grandmother apparently applied coal oil to kindle a coal stove.

In Harrison, N. J., five children under five were left alone in a third-floor apartment while their mothers went shopping. One played with matches. A four-months old girl was asphyxiated in her crib by the resulting fire. Neighbors rescued the others.

* * *

Lineman on Job, Calls Firemen, Saves Invalid

Joseph Wallen, 23-year-old telephone installer, was at work atop a pole at 475 So. Sixteenth St., Newark, N. J., when he heard a woman shout "Fire!"

Looking across the street, he saw smoke coming from a second floor window of a two-story dwelling. Since he had been at work on a terminal box it was simple to plug in a special telephone set and call the Fire Department.

Then Walten descended the pole and ran into the burning building where he found Mrs. Bella Klein shouting that her bedridden mother was trapped in a second-floor room. Through smoke and spreading flame, he ran up the stairs, reached the bedroom and carried Mrs. Molly Peckler, 55, to safety.

A Fire Department rescue squad administered oxygen to the invalid, who suffers from heart disease. Other firemen, meanwhile tackled the fire, of undetermined origin, which seriously damaged Mrs. Peckler's apartment, and spread to the adjoining three-story structure.

Installer Walten returned to his perch on the pole and went to work before the fire was out. Howzabout a bunch of orchids for him!

* * *

Hot Off the Tape

Elisha Hall, 50, and Horace Hicks, 53, farmers bet each other that an automobile ignition would explode a stick of dynamite. They were killed proving it would. A third farmer, Frank Bennet who fled the auto when he saw them "fooling with the stuff," was knocked down by the blast. . . . The 17th death from poisoning by gas generated by gas refrigerators since December, 1949, caused the New York Department of Health to order its 360 field inspectors to check the appliances "every time they go into a home to make an inspection." . . . Selection of a single municipal agency to operate the emergency ambulance service of the city has been recommended by the Hospital Council of Greater New York. . . . The city of Elizabeth, N. J., imposed regulations governing the licensing and operation of "fire," "close out" and similar types of sales by retail merchants. . . . Firemen of Jacksonville, Ark., near Little Rock, decided to do something about motorists who get in their way at fires. The trick was a fake alarm. When motorists started driving over fire hoses at the scene of the non-existent fire, the vamps started squirting water—at the motorists. . . . William Sells, 83, of Columbus, Ohio, rubbed the sleep from his eyes, threw off the covers and started a fire in a stove in his home. A few minutes later Sells was wide awake. So were firemen who barged into his house. He had mistaken the kitchen cabinet for the stove. Damage $375. . . . Frank A. Adamo, 24, admitted setting three fires in neighboring Bronx, N. Y., apartment buildings, all in baby carriages. Charged with first-degree arson, it was disclosed that he was dishonorably discharged from the Army in 1946 for setting a barracks afire in France. There oughta be a law! . . . In Cliffside Park, N. J., 2-year-old Richard Modes gave his mother a headache when he swallowed 10 aspirins. Firemen and police responding to the emergency call, manned the stomach pumps and saved the child. . . . Near Cortland, N. Y., John Kinney, a highway worker, raced from his burning home with his clothes on fire, extinguished the flames by rolling in the snow, then returned to rescue his four children. Mr. Kinney, whose wife was away at the time, tried to light a kerosene stove in his kitchen. Firemen confined fire to kitchen and one bedroom. . . . Training courses for baby sitters, which include instructions on how to summon firemen and do first aid fire fighting, are being given by safety councils with success in Duluth, Minn., and other cities. . . . Twenty-five members of the Selden, L. I., Volunteer Fire Department and Brookhaven police dug with hand shovels for two hours to save the life of a 60-year-old man who was trapped while building a cesspool outside his home. . . . Many folks living in the District of Columbia area think one of the friendliest signs in the neighborhood is the one outside the fire station on Old Georgetown Road, in Bethesda, which reads: *"If You Are Lost, Come In. Ask Us!"* . . . A reward of $100 was offered by aldermen of Ridgely, Tenn., for information leading to the arrest of the person responsible for the series of fires in out-door toilets in and near that place. During a six months period, 11 small "Chick Sales" burned in the area, all late at night or in early hours of the morning. Write your own caption. (Thanks R. H. Davidson). . . . Mrs. Virginia Lorns, 50, admitted in Miami court that she set fire to a truck belonging to A. A. Anderverg. She said she owned a part interest in the vehicle, that Anderverg was her boy friend and was using the truck to call on another gal. She burned the truck because she didn't want to lose both her man and her truck. The judge was unimpressed and jugged her for 60 days. . . . In Springfield, Mass., workers screened 60 tons of soft coal in two public school basements in effort to locate explosives, after two boxes carrying 20 sticks of dynamite and detonating caps were found in a carload of coal consigned to the schools.

* * *

Sign 'em Up Dodgers!

There's a likely looking bunch of pitchers out Clinton, Iowa, way that oughta be looked over by some baseball talent scout. A bit young right now, perhaps, but they're tomorrow's candidates for the bush leagues!

Good snowball pitching by this team of stars—all pupils of a one-room rural school near Clinton, put out a fire on the schoolhouse roof—believe it or not.

When the teacher of Burr Oak School, discovered the blaze on a January afternoon, she marched her 10 pupils outside and divided 'em into two teams. Five pupils were sent to get help and the other five formed a bucket brigade.

After efforts to throw water onto the burning roof, 20 feet above, failed, the barrage of snowballs began. And it was effective in knocking out the roof blaze before the fire fighters arrived.

IN PLAIN LANGUAGE
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NO INSTALLATION PROBLEMS. Control unit only 6" x 6" x 4¾" — can be mounted handy to driver in any type vehicle. Separate transmitter-receiver unit installs remotely — under dash, overhead, under seat, in trunk, *anywhere*. Only *one* interconnecting cable. Speaker built into control unit eliminates separate installation.

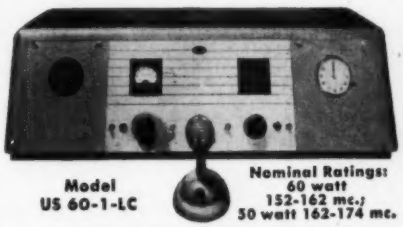
HONESTLY RATED. Nominal values of output power 20 to 30 watts over the entire frequency band 152 to 174 mc. with ample margin to insure performance under adverse terrain or weather conditions. Normal operation well within rated capacity means less frequent tube replacement, lower maintenance cost.

NO INTERFERENCE. Guaranteed to meet *all* FCC requirements including adjacent channel operation and modulation limiting. You are fully protected against all possibility of future embarrassment, expense for modification or even loss of license.

LOWEST COST. Watt for watt, you can't beat Raytheon Radiophone for economy of initial cost, operation and maintenance. Raytheon "Excellence in Electronics" insures maximum value and performance.

FOR ALL MOBILE EQUIPMENT. Available for 6, 12, 24 or 32 volt DC operation — for fire apparatus, earthmoving equipment, boats, big trucks, cabs, cars — *anything that moves.* No power problems, no installation problems.

EVERY DESIRABLE FEATURE. Plug in mike either side of control case. Auxiliary volume control provides extra volume for noisy road conditions. "Stand by" position on master switch permits receiver operation while saving 3 amps continuous battery drain. Furnished complete with all accessories. Available in single or dual channel models covering the entire 152-174 mc. frequency range.



Model US 60-1-LC

Nominal Ratings: 60 watt 152-162 mc.; 50 watt 162-174 mc.

If you want the finest in BASE STATION EQUIPMENT

Model US 60-1-LC Deluxe Console unit provides built-in speaker, clock, intercom facilities, all necessary switches, plus complete metering and testing facilities for the entire system. Also provision for additional transmitter-receiver or monitor receiver. 20-30 watt base station systems also available (Model US 30). All above base station systems are available in rack cabinet or wall mountings. Prices on request.

RAYTHEON

Excellence in Electronics

RAYTHEON
MANUFACTURING COMPANY
WALTHAM, MASSACHUSETTS

Sold Exclusively in Canada by CANADIAN MARCONI CO., 2442 Trenton Avenue, Montreal 16, Quebec
Export Sales and Service: RAYTHEON INTERNATIONAL, 50 Broadway, New York 4, N. Y.

MAIL THIS COUPON TODAY!

Dept. 6460 FE
Raytheon Manufacturing Co.
Waltham 54, Massachusetts
Please send complete information on Raytheon Mobile Radiophone:
Model UM 30 Mobile Unit
Model US 30 Base Station Equipment
Model US 60 Base Station Equipment

NAME .....
ORGANIZATION .....
ADDRESS .....
CITY .....ZONE.....STATE.....

Other Raytheon Products include Mariners Pathfinder* radar; Fathometers*; radio and television receivers; tubes; television equipment; microwave communications; electrostatic air cleaners; welders; voltage stabilizers; Rectifier* battery chargers; Rectifilter* battery eliminators; transformers; Microtherm* diathermy; fractional hp motors, and other electronic equipment. *®

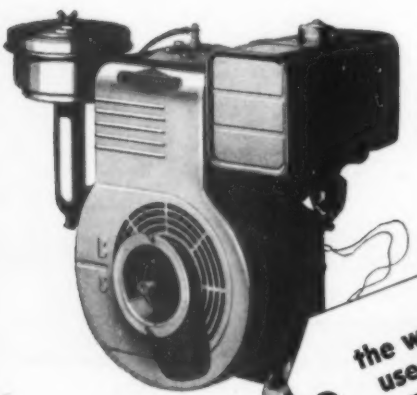
More than

5,000,000

4 CYCLE
BRIGGS & STRATTON
GASOLINE ENGINES

The performance record of more than five million Briggs & Stratton single-cylinder, 4-cycle, air-cooled engines speaks for itself.

BRIGGS & STRATTON CORP., Milwaukee 1, Wis., U.S.A.



"Preferred Power" for home, farm and industrial equipment — powered by gasoline engines.

the world's most widely used single-cylinder gasoline engines

World Wide FACTORY SUPERVISED SERVICE

In the automotive field Briggs & Stratton is the recognized leader and world's largest producer of locks, keys and related equipment.

When Threads Don't Match

(*Continued from page* 42)

If hydrants are not available, the open butts of the relay lines (or line), can be used as the supply, the pumper taking suction out of the "tank."

American Improvised Reservoir

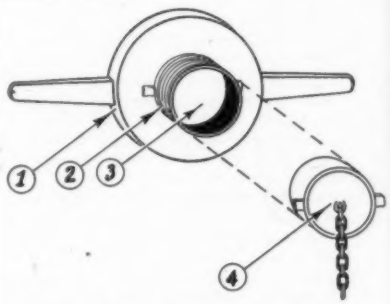
An American adaptation of the above idea, and one that can be carried out by any company having short ladders and a tarpaulin, is pictured herein. It was briefly described in the August, 1950, issue of FIRE ENGINEERING and requires no further elaboration here. In actual practice, the "dam" is located at the hydrant—if such is available, so that it can be filled directly from the hydrant outlets or, if the reservoir cannot be so conveniently located, it is fed by hose lines from the hydrant.

If no hydrant is available, the relay feed line or lines are used to supply the dam, while the pumper takes its suction from it through its hard rubber suction hose.

If open butts are used, care should be taken to see that the supply hose is not kinked. By running it along a plank or rail to the edge of the dam, it is unnecessary for a man to hold the supply hose, as shown in the picture. Also the suction sleeve may be lashed to a plank or short ladder to keep it from pulling out of the reservoir or otherwise injuring it.

Improvised Suction Cap-Reducer

A form of adapter for use in making pumper connections may be improvised as pictured. This consists of welding a 2½-in. hose coupling on the suction intake cap, which fitting is regular equipment on all pumpers having large suction intake.



The diagram shows: (1) suction intake cap; (2) passage made on suction intake cap; (3) 2½-in. brass coupling "male end" welded on suction intake cap; (4) 2½-in. female thread to cap 2½-in. male coupling.

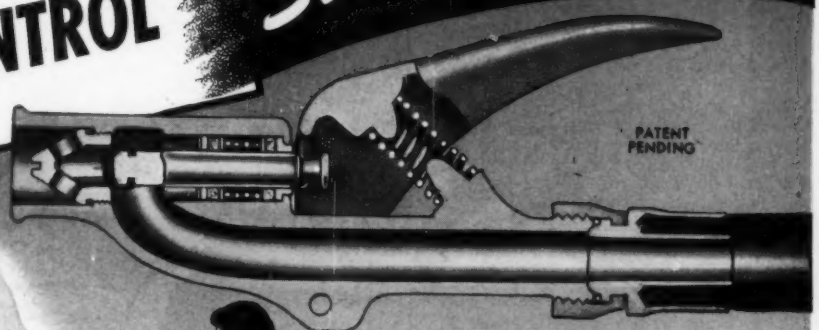
This "short-cut" has proved useful in straight lays, relays, etc.

I.A.F.C. Directors to Meet in Houston

Chief John H. Alderson of Los Angeles, Calif., Fire Department, and President of the International Association of Fire Chiefs, has called the annual meeting of the Board of Directors of the Association, to be held at the Shamrock Hotel, Houston, Tex., on February 5 to 7, 1951. A meeting of the Executive Committee will be held on February 4.

FASTER . . . MORE EFFECTIVE FIRE CONTROL

WITH THE ANSUL *Stream Pattern*



. . *plus* BETTER HEAT-SHIELD PROTECTION

EXCLUSIVE FEATURES

- Water-tight construction.
- Provides a modified cone-shaped stream pattern without hole in the center of the stream.
- Each nozzle gas pressure tested after assembly.
- Special spring loaded packing to insure lasting water-tightness.
- Designed for use by inexperienced operators.
- Low velocity, more effective stream of dry chemical.

why Advertise the Nozzle! . . .

. . . because the **nozzle** on your ANSUL Dry Chemical Fire Extinguisher is **water-tight** . . . it **won't** become inoperative due to corrosion or caking of dry chemical within the working parts . . . the most inexperienced man in your plant **can use the ANSUL extinguisher effectively** . . . ***and only Ansul has a nozzle*** to meet all of these requirements!

If your hazards require special long range straight stream nozzles, you can get Ansul Extinguishers equipped with these nozzles at no extra cost. With Ansul Dry Chemical Fire Extinguishing Equipment you have not only the best fire protection but also a choice of models and designs to meet your requirements.

Send for File No. 654. You will receive our latest catalog, a Periodic Inspection Record Chart, "Fundamentals of Fire Extinguishment" and information about Ansul Dry Chemical Piped Systems for automatic protection.

ANSUL
CHEMICAL COMPANY
FIRE EXTINGUISHER DIVISION
MARINETTE, WISCONSIN
DISTRIBUTORS IN ALL PRINCIPAL CITIES IN THE U. S. A., CANADA AND OTHER COUNTRIES

"PLUS-FIFTY" DRY CHEMICAL IS MORE DEPENDABLE ALL-WAYS!

THIS TRADE MARK ASSURES YOU OF QUALITY PRODUCTS

FALSE ALARMS

Makes a Difference

"Boys," said the pious teacher to his Sunday School class, "you must learn never to lose your tempers, even under the most vexing circumstances. Now, to illustrate, while I have been talking, a fly has landed on the end of my nose. I do not swear. I do not blaspheme. I merely say, 'Go away, fly.' MY GOD! IT'S A BEE!"

The lowly cub reporter who was assigned to cover the class plays of the high school came in for his share of literary fame when the following appeared in his write-up: "The auditorium was filled with expectant mothers, eagerly awaiting the appearance of their offspring."

Desperately in need of 50 cents, a fellow we know finally got up enough courage to open his pay envelope before taking it home to his exacting wife. Somewhat mystified at what he found therein, he hurried back to the cashier who had given him the envelope.

"You've given me $10 too much, I'm afraid," he stammered.

The cashier counted the bills and coins, then replied impatiently: "It's quite correct. I suppose you've forgotten that you got a $10 raise last month."

He placed his hands across his eyes, shrank into his collar farther and said faintly: "My wife never told me."

"Wait'll the Insurance Investigator Spots That Chart!"

One man in every thousand is a leader of men; the others follow women.

"Never Mind Looking for Ordinary Bargains. I'll Let You Know When I Hear of a Good Fire Sale!"

Mistaken

Jimmy, who had been climbing trees, came in for the second time with his trousers torn.

"Go upstairs and mend them yourself," ordered his harassed mother.

Some time later, she went upstairs. The trousers were there, but no Jimmy.

Puzzled, she came downstairs and noted that the cellar door was open. She called down loudly and angrily:

"Are you running about down there without your trousers on?"

Came the startled reply: "No, madam, I'm reading the water meter."

Foresight

Prospective Roomer: "The window is very small. It wouldn't be much good in an emergency."

Landlady: "There ain't going to be none, mister. My terms are cash in advance."

Wife: "My husband is becoming quite a musician."

Friend: "What does he play? The piano?"

Wife: "No, he goes out fit as a fiddle and comes home tight as a drum."

A man about to be electrocuted phoned his lawyer from the death chamber. "They are about to put me in the electric chair," he said. "You are my lawyer—what do I do now?"

The lawyer thought a moment and then said: "Don't sit down."

Let's toss a coin!

The city of Portland was named on the toss of a coin. Two men, one F. W. Pettygrove, a native of Maine, proposed Portland as the name. The other, A. L. Lovejoy who came from Massachusetts, favored Boston. They finally agreed to toss a penny, "Heads — Portland, Tails — Boston." Pettygrove won.

In choosing badges there is no need to trust to luck. The Portland Police are not taking any chances, they're wearing the best . . . they're wearing BLACKINTON BADGES.

BLACKINTON stands for the best in service, style, and quality. For the plus value in badges ask your dealer to show you BLACKINTON BADGES.

BLACKINTON
V. H. BLACKINTON & CO., INC., ATTLEBORO FALLS, MASS.

OFFICIAL BADGE

Actual Size No. 5822

AND

BUTTON

Actual Size No. 7414

OF YOUR ASSOCIATION

Wear One!

No. 5822
Rolled Gold $8.50–14 Kt. Gold $55.00

No. 7414
Rolled Gold $1.00–14 Kt. Gold $3.50
Plus 20% Federal Tax

Satisfaction or money refunded.

BRAXMAR BADGES

Standard since 1879

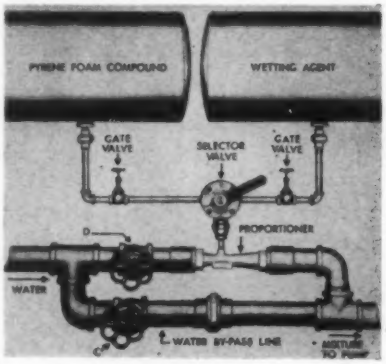
JOHN O. VEIT
President

C. G. BRAXMAR CO., Inc.
216 E. 45th Street, New York 17, N. Y.

News of the Manufacturers

Pyrene Selector Valve for Air Foam Compound and Wetting Agent

Motor fire apparatus, railroad fire cars, fire-fighting trailers and stationary installations can now make their supply of water more efficient at the flick of a valve by employing either air foam compound or wetting agent.



Pyrene Selector Valve

A new Pyrene selector valve for use with a suction side proportioner permits introduction into the water stream either a 1% or 2% proportion of wetting agent or a 5% concentration of foam compound.

It is made of stainless steel and has a 4-position dial plate for 1% or 2% of wetting agent, 5% of foam compound and an "off" position when only plain water is to be discharged.

A 1% concentration of wetting agent is used for Class A fires in wood, papers, textiles, whereas 2% is used for Class B fires in flammable liquids where the product is of a heavy base. The 5% mixture of foam compound in water may be discharged through air-foam playpipe to produce approximately 350 gallons of foam for every 20 gallons of water and one gallon of Pyrene foam compound.

The valve has been developed by the Pyrene Manufacturing Company, Newark, N. J., manufacturers of fire extinguishers, air foam playpipes, systems and compounds.

Motorola Gets Contract for New York Fire Department Radio

The New York Fire Department has signed a contract with Motorola, Inc., to completely modernize its radio system. More than 500 vehicles, fireboats, and station houses will be equipped with new F.M. 2-way units at a total cost of over half a million dollars.

The contract calls for Motorola to furnish the department with a complete radio network, including construction, soundproofing, and all other accessories. Built in four separate systems, the network is being installed to furnish radiotelephone communications facilities to mobile fire department units and fireboats operating through the five boroughs of the City and Port of New York.

One system will cover the entire city of New York, the second system will be used by the Boroughs of Manhattan and Bronx, the third will cover Brooklyn and Queens, and the fourth will be installed for the Borough of Richmond.

Each of the systems will be so designed that mobile stations can monitor, over loudspeakers and handsets, both sides of all conversations. Specifications were prepared so that radio equipment would be purchased that would meet the extreme requirements of the congested New York City area. Adjacent channel operation of the radio equipment was an essential requirement.

These units include the Sensicon receiver, incorporating the Permakey Filter and the Motorola mobile transmitter into which has been incorporated a special filter circuit which reduces transmitter, spurious and harmonic radiations more than 100 db below the carrier level.

The principle of the Sensicon circuit is said to allow excellent reception without interference from the neighboring channels in areas where the FCC has authorized and assigned adjacent channels.

Ernest Day Honored

Ernest N. Day, President, New Jersey Fire Equipment Corp., Dunellen, N. J., was given a testimonial dinner by friends and associates, marking his twenty years connection with the fire equipment business.

The dinner, held at the Stacy Trent Hotel, Trenton, N. J., Nov. 25, 1950, was attended by many fire chiefs and prominent civic and other officials of the State. The Toastmaster was Hon. Edward J. Patton, Middlesex, N. J., County Clerk. Fire Chief Thomas J. Phelan, of Trenton, introduced Mr. Day, who was felicited by a number of other guest speakers, including Chief Chas. E. Clark, Secretary, Eastern Fire Chiefs Assn.; Chris. H. Hasselhuhn, Pres., N. J. State Firemen's Assn.; Joseph Morecroft, Jr., Freeholder, Middlesex County; Capt. John G. Lambert, Phila. State Hospital; Elvin R. Simmill, New Jersey

New Fire Fighting Improvements in an Old Setting Down Mexico-Way

Peter Pirsch & Sons Co. have made a conquest of the Land of the Conquistadors, by the delivery of two 100-foot aerial ladders to the Fire Department of Mexico City. The apparatus, shown here before the "Monument of the Revolution," is a 100-foot aluminum alloy, hydro-mechanical senior fractor trailer type, with 240 H.P. engines, 200 feet of Pirsch trussed wood ground ladders and other miscellaneous equipment.

A NATIONALLY RECOGNIZED FIRE SCHOOL DIRECTOR
"We believe in Scott Air-Pak. We use it and we teach its use. There's nothing like it."

PROMINENT FIRE DEPARTMENT SURGEON
"Scott Air-Pak is the best mask equipment available, because it completely protects the firemen's lungs, without any penalty of slow starting or difficult breathing."

A "CITY FATHER" SAYS
"I'm recommending more Scott Air-Paks, because we're determined to make our firemen safer and reduce our property losses. Our use of even a few Air-Paks has proved what can be accomplished."

Scott Air-Pak (TRADEMARK) invites you to

Meet Some People

A FIREMAN WITH 25 YEARS SERVICE
"I'm sold on Scott Air-Pak, (and I've used them all) because Scott has not forgotten the little things that count, like the guard on the Cylinder Valve; the wonderful quick-action Harness, and the easy and positive breathing action. All of our boys have complete confidence in the Air-Pak."

A FIRE CHIEF
"I'm standardizing on Scott Air-Pak, because their use is enabling my men to get in quicker; do more when they get in; and often knock out a fire with little water or structural damage. When we can equip *more* of our men with Scotts, we can do an even better job."

ESTABLISHED IN 1932
Scott
FOR SAFETY - FOR SERVICE

A MUNICIPAL PURCHASING AGENT
"I have the operating cost record of our Scott Air-Paks. We saved money last year by using Scotts, in spite of the fact that we've used them *much oftener* than our previous breathing equipment. No Cannisters to buy. Air is relatively cheap. When the Chief asks for more Scotts, I'll sure approve."

Write *today* for descriptive literature on Scott *Air-Pak* (illustrated above) and Scott DEMAND Oxygen Inhalator.

SCOTT AVIATION CORP.
215 ERIE STREET, LANCASTER, N. Y.
Canada: Safety Supply Co. Branches in All Principal Cities
Export: Southern Oxygen Co., 157 Chambers St., New York 7, N. Y.

IT IS BETTER TO HAVE AND NOT NEED THAN TO NEED AND NOT HAVE
DURING THE EMERGENCY

THE BLITZ BUGGY FIRE FIGHTER

will be an asset to any

FIRE DEPT., INDUSTRIAL PLANT OR AIRPORT

A CRASH TRUCK
Approved by the Underwriters

PRICED AT $4150.00 F.O.B. PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Equipped with 600 pound HIGH PRESSURE FOG.
Ample supply of water.
Excellent for gas and oil fires.

HI-PRESSURE FOG EQUIPMENT CO. OLD FORGE N. Y.

FULTON *Shuredry* ON THE JOB

IN DALLAS TEXAS

Shuredry

When lightning struck the fine Dallas residence shown below, destroying part of the roof, Fulton Shuredry Green-Bak Salvage Covers were used to cover and protect the exposed portion from additional damage by rain or storm. This is just one of the many, many uses for Shuredry Salvage Covers, which have saved fire victims untold thousands of dollars in damage. Approved by National Board of Fire Underwriters and by Factory Mutual Laboratories, Fulton Shuredry tops every test for water penetration and water seepage. Specify Shuredry on your next order from your fire equipment dealer.

"Fulton Shuredry Salvage Covers are standard equipment with us. We have saved property owners many thousands of dollars with covers over the years we have used them."

Fire Marshall George Wyatt
University Park Fire Dept., Dallas, Texas

Use Fulton Triple Strength Tarp at 1000 Uses for Protection of Equipment and Supplies Exposed to Weather.

Fulton BAG & COTTON MILLS
Atlanta • St. Louis • Dallas
Minneapolis • New Orleans • Los Angeles
Denver • New York City • Winter Haven, Fla.

State Assembly; H. A. Hendrickson, Vice Pres., N. J. State Firemen's Assn.; Chief Walter L. Burgin, Pennsauken Township; Charles Day; Walter A. Miller Jr., Supt. of Dunnellen Schools and Albert J. Roff, Mayor of Dunnellen.

The main address was delivered by Fire Commissioner John B. Keenan, of Newark, N. J.

Mr. Day, who is widely known outside New Jersey as well as to the fire service of his state, has been active in numerous fire service organizations, training schools and other activities devoted to firemen and their enterprise.

New Pyrene Air Foam Catalog

An entirely new brochure on air foam or mechanical foam for fire-fighting has been released by the Pyrene Manufacturing Company, Newark, New Jersey, and is available on request to companies having oil storage tanks and other large flammable liquid fire hazards.

It describes air foam, methods of application, high and low expansion types of foam compound, specifications and operating characteristics for five sizes of portable playpipes, mobile and stationary foam proportioning tanks and installations of the auto induction, pressure line inductor, "around-the-pump" proportioner, self-contained and motor fire apparatus types. A selector valve for use with wetting agent and foam compound carried on motor fire apparatus is also shown. Twenty-four pages, illustrated, 8½x11.

New Hose Catalog

Featured by sharply defined illustrations which show every detail of construction. The B. F Goodrich Company, Akron, Ohio, has just published a new six-page catalog section on its lines of municipal fire hose. Copies are available upon request.

Details of the construction features used in the hose are followed by descriptions of each product. These include Fire King booster and Fire Extinguisher hose, Sentry chemical hose, Fire King double jacket, White King, Highflex, Jupiter and Planet fire hose and three types of suction hose.

Koroseal swivel jackets which prevent locking and jamming, and allow fast, positive seal by hand, as well as hose couplings also are described. Specifications on size, outside diameters, and weight of each hose is included.

National Introduces New Type Foam Nozzle

National Foam System, Inc., West Chester, Pa., has introduced a new foam nozzle that can easily and instantly change the discharge from a closely-knit foam spray to a long-range foam stream. It is known as the National Aer-O-Foam Spray-Stream Nozzle.

Through an ingenious bolt action, the operator has at his finger tips an ideal means of combating serious spill fires or reaching a distant hazard. Should heat become too great for the operator, when using the straight stream, he can quickly switch to the protective curtain of the spray.

The new Spray-Stream Nozzle is the same basic design as the regular National "RP" Type Nozzle. The built-in spray feature in no way interferes with

UNOX PENETRANT

TRADE-MARK

IS LISTED BY UNDERWRITERS' LABORATORIES, INC.*

U. L. tests confirm that UNOX Brand Penetrant will extinguish fires more efficiently than plain water through:

SPEED

Decreasing the time of extinguishment

Immediate and appreciable reduction in fire temperature

Immediate smoke abatement

The extinguishing action on flammable liquids by the formation of an emulsion

EFFICIENCY

Immediate penetration into, and spread over, charred or otherwise water-repellent surfaces effecting maximum cooling

Decreasing the quantity of water required

Prevention of rekindling by penetration to sub-surface heat layers

UNOX wet water does not have any deteriorating effect on cotton rubber-lined or linen fire hose, and its effect on metals does not differ materially from that of plain water.

Product of
CARBIDE AND CARBON CHEMICALS DIVISION
Union Carbide and Carbon Corporation
UCC

Don't Trust Untried Wetting Agents
Order UNOX Penetrant from the Dealer Nearest You

ABERDEEN, S. D.
Fire Protection, Inc.
1306 N. Lincoln St.

BALTIMORE, MD.
F. L. Anderson Co.
Bush and Russell St.

BIRMINGHAM, ALA.
L. P. Harless Co.
2627 Seventh Ave. S.

BUFFALO, N. Y.
Young Fire Equip. Co.
1546 William at Bailey

CHICAGO, ILL.
Viking Auto Sprinkler Co.
5520 N. Wolcott Ave.

DALLAS, TEXAS
Texas Auto Sprinkler Co.
2330 Summer St.

DETROIT, MICH.
E&J Resuscitator Co.
3900 Grandy Ave. at Leland

DOVER, DEL.
Capitol Fire Equip. Co.
18 N. Governors Ave.

DUNELLEN, N. J.
Gold Crest Fire Equip. Corp.
P. O. Box 155 (Highway 29)

KANSAS CITY, MO.
Walton-Viking Co.
2518-20 Holmes St.

LOS ANGELES, CALIF.
Sharpe Engineering Co.
416 West Eighth St.

MEDFORD, MASS.
Charles Clougherty
39 Miller St.

MINNEAPOLIS, MINN.
Minnesota Fire Equip. Co.
129 South 10th St.

OMAHA, NEB.
Anderson Fire Equip. Co.
2427 Farnum St.

N. TARRYTOWN, N. Y.
Wesco Fire Equip. Co.
186 Cortlandt St.

PHILADELPHIA, PA.
Nat. Alexander Co., Inc.
401 N. Broad St.

PHILLIPSBURG, N. J.
Leidy Electric Co.
201 Broad St.

PORTLAND, OREGON
Minnell & Sherrill, Inc.
400 S. First Ave.

Nelson-Huser Co.
1200 N.W. Glisan St.

TERRYVILLE, CONN.
Stevens Fire Equip. Co.
21 Hillside Ave.

SAN FRANCISCO, CALIF.
Coast Fire Equip. Co.
272 Fremont St.

SPRINGFIELD, MASS.
David G. Deane
100 Washington Rd.

WINSTON-SALEM, N. C.
Stop Fire Equip. Co.
624 West Fourth St.

WINTHROP, ME.
Blanchard Associates
P. O. Box 182

In Canada

VANCOUVER, B. C.
Fleck Bros., Ltd.
110 Alexander St.

WOODSTOCK, ONT.
Bickle Seagrave, Ltd.

*Extinguisher No. 1636, "Report on Wetting and Penetrating Agents."
UNOX is a registered trade-mark of Union Carbide and Carbon Corporation.

the range found in the "RP" Nozzle. The new product is light in weight and eliminates the need for shutting down the water supply when changeover is required. As with the "RP" model, the Spray-Stream Nozzle can be used either with pre-mix or a pick-up tube.

Complete data on this newest development is available from the manufacturer.

Alfco's New Dry Chemical Engine Packs Plenty of Power

What is said to be industry's biggest wheeled portable dry-chemical engine, has been introduced by American La-France-Foamite Corp., Elmira, N. Y. It is designed for fast action on flammable liquid and electrical fires, can easily be handled by two men, and has a number of features, including inspection and approval labels of both Underwriters and Factory Mutual Laboratories, with B and C classification.

It provides fast, effective smothering action, while the density of the dispersion of its sustained pressurized discharge has an exceptional effect of cooling and insulating the operator from a fire's intense heat. Aided by a discharge range of 20 to 25 feet, the operator can move in on the fire to blast it out with full force of its blanketing discharge.

The tank of the engine contains 350 pounds of Alfco Dry Chemical and the entire contents can be discharged in about 1 min. 15 sec. The expellent is dry nitrogen, with sustained operating pressure of 200 P.S.I. during entire period of the discharge.

Free literature on the Alfco 350 Dry Chemical Wheeled Portable Engine is available from the company upon request.

Ansul Publishes Helpful Pamphlet—"Fundamentals of Fire Extinguishment"

A wealth of meaty information is compressed into the latest Ansul Chemical Company publication: *The Fundamentals of Fire Extinguishment.* Its four large pages picture and describe the "triangle of fire," classification of fires, gasoline as a fire hazard, etc. The colorful publication is one of a number that will eventually comprise a fire-fighting manual.

Copies may be had by writing above company, at Marinette, Wis.

Alfco Brings Out New One-Quart Pressurized Extinguisher

A new pressurized quart fire extinguisher, having trigger control, which discharges vaporizing liquid for extinguishing both flammable liquid and electrical type fires, has been introduced by American-LaFrance-Foamite Corporation, Elmira, N. Y., it is announced.

The new extinguisher aims like a gun; has trigger-quick action, enabling the operator to hit the target instantly, accurately; discharge fire-gun fluid; is compressed air expelled—requires no pumping and can be operated with one hand. Furthermore, it is easily recharged and pressurized.

Jack Rabbit Starts in Winter with KIM Hotstart electric pre-heater ...for Gas and Diesel Engines

FAST ACTION now means dollars saved in your winter operating budget. KIM Hotstart installations lick winter grief; end sluggish motors, end service tie-ups and high repair bills. KIM pre-heater means quick starts, efficient engine operation, lower cold weather operating costs all the way around.

See your International or Mack dealer or any leading auto supplier. Or write for literature. Better do it now. Cold weather doesn't wait for anybody!

8 outstanding features

- ✓ Gives quick, easy starts
- ✓ Reduces motor wear
- ✓ Prolongs battery life
- ✓ Four models, quickly installed
- ✓ Reduces fuel consumption
- ✓ Saves warm-up time
- ✓ Cuts costs of terminal heating
- ✓ For stationary or mobile engines—diesel or gas

KIM HOTSTART MFG. CO.
West 917 Broadway, Spokane 11, Wn.
Please send literature, prices, name of local KIM dealer.
Name_____
Company_____
Address_____
City_____ Zone____ State_____

World Wide Fire News

By Roi B. Woolley

U. S. Sues for 32 Million on Tanker Fire!

The Federal Government has filed a suit for $32 million against the Standard Oil Company of Kentucky for loss of a tanker which burned at Jacksonville, Fla., August 5, 1946.

The Government charged that the 10,000-ton tanker "Homestead" was owned by the War Shipping Administration and was chartered by the Standard Oil Company of New Jersey. The suit said that the ship was hauling gasoline for the Kentucky company and the Government argued that a hose from the ship to shore tanks came loose; that gasoline spilled on the water and that lightning started the fire.

The Government also charged that the Kentucky company's workers were to blame because the hose became uncoupled. The resulting fire destroyed a dock and burned for several days. Three lives were lost as a result of the fire.

An interesting point is how much of the loss was included in the year's total! It frequently happens that owing to the difficulty of securing estimates of losses in fires involving government installations and property the national overall fire losses for the period involved, are low.

* * *

British Fearful of Sabotage

British secret service agents believe that a nationwide Communist sabotage ring may be masterminding a disturbing series of "incidents" designed to cripple Britain's rearmament drive, according to well informed sources.

Fire in army workshops, small arms plants and naval dockyards and installations in increasing numbers are said to provide the evidence upon which the belief is based.

On Nov. 8, one of the series of fires occurred in the Davies Steel Specialty Co.'s plant at Pembroke Dock, causing loss of $280,000. The plant had recently switched from making roller skates to machine gun belts for the RAF.

On Nov. 11 an explosion and fire ripped through a unit of the Oldham plant of Ferranti, Ltd., a big radio and electronics firm working on government orders. Officials reported an investigation under way. Loss was heavy.

This was the fourth mishap within a week at defense plants. A mysterious fire which swept through the Army Signal Corps depot at Aldershot caused $1,400,000 damage. An explosion at a chemical factory on Bramble Island killed four persons, injured 25 and did unreported damage. Then there was the Pembroke Dock fire listed above.

Government spokesmen also disclose that there were 13 cases of "malicious" damage to British warships and shore installations during October and November alone.

* * *

From the World News Ticker

The British fire service is a bit perturbed by the bold admission of the Chief Inspector of Fire Services in his annual report that of the 1,677 motor pumps in England and Wales, 259 are between 15 and 20 years of age, 49 more than 20 years and 776—nearly half—are wartime improvisations. The situation is said to bode ill for the nation in time of enemy attack, while it is lowering the morale of the fire forces. . . . Thirteen men were killed in a methane gas explosion in a tunnel at Troiana, Italy, December 6. . . . A tunnel apparently filled with gas exploded at the Charleston Navy Yard on the night of December 13. Windows were shattered half a mile away and the blast was felt 11 miles distant. The Navy said seepage of "some type of gas" apparently had accumulated in a large concrete tunnel and had been touched off by a spark or static electricity. The blast blew out a 30-ft. 6-in. thick section of tunnel. . . . One man was killed, four others injured, on December 12 in an explosion at the Canadian Government atomic energy establishment in Chalk River, Ont. The blast occurred in a small pilot plant during the "process of evaporating a liquid," according to the terse official report. . . . Princeton University's atom-smashing cyclotron, damaged by a fire last February 22, may get back into operation this winter. Replacement costs will be less than the $300,000 first set for repairs. . . . The 8,200-ton U. S. steamer American Banker was reported afire and asking for aid, on December 14 last, about 300 miles southwest of Ireland. . . . A blast which knocked out part of a laboratory wall at California Institute of Technology, December 9, seriously injured Dr. Howard J. Teas, 30, who for the past two years has been studying the effects of radio-activity on corn which underwent the Bikini atomic bomb test. Bust-up apparently occurred during transfer of oxygen. . . . The gales and rainstorms that plagued the northeastern section of the nation during Thanksgiving weekend will cost stock fire insurance companies $50 million, it is

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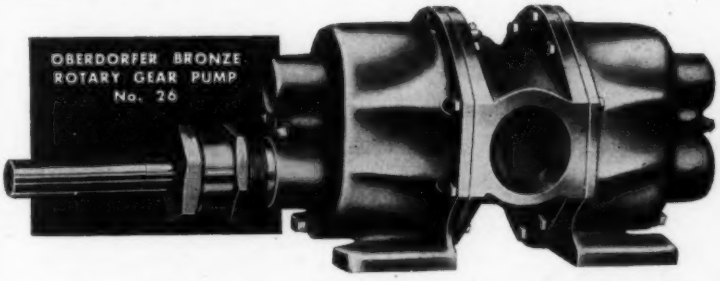

The records of many departments show over half of all calls satisfactorily terminated by Oberdorfer Bronze Rotary Gear Booster Pumps alone, with little or no fire or water loss. These pumps held many more of those calls in control the few minutes until heavy pumpers went into action. They provide water and pressure just as fast as a fireman can get to a fire.

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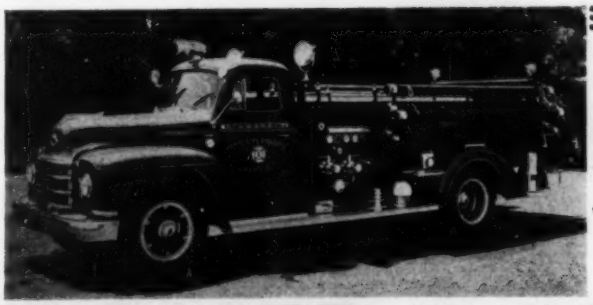

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reported. . . . The Mojave desert town of Daggett breathed easier December 14 as danger of potentially deadly gas, which mushroomed into the sky after an explosion of tons of chlorinated lime at a Marine Base nearby, was removed. Over 500 persons precipitously left their homes after the blast, believed caused by a spark from a bulldozer traveling over a lime supply dump. . . . Six mysterious explosions in the Irish Sea rocked the 869-ton coastal vessel Baronscourt, it was reported by her captain. Blasts, which occurred in quick succession about 150 yards from the ship, when she was about 12 miles off the English northwest coast, could not be accounted for. . . . The sprawling one-story officer's club of Ft. Dix, N. J., was burned, despite efforts of six fire companies and local fire fighters. Cause not known. . . . The summer home of Steve Hannigan, New York publicity man, in the Emerald Lake section of Conn., was destroyed by fire during the November storm. Loss $20,000. . . . An estimated 1,000 persons were made homeless by destruction of 300 houses by fire in Kagoshima, Japan's southernmost city on December 3. . . . In Scarborough, Eng., local fire brigade was under orders to take along dustpans and brooms to sweep up after every chimney fire. Station Officer Gill explained: "Housewives are often scared to call for us for fear we'll make too much mess. Now we can always leave the place tidy." . . . Fire of unknown origin spread out of control aboard the British tanker "Eastern Med" late in November, injuring 20 Egyptian workers who had just finished loading the 1,782-ton vessel with oil. . . . Fire about that same time swept part of a factory at Treorky, Wales, which was making radar apparatus for the British government. Company officials said damage was serious and asked for an investigation. . . . A fire in a camp on the River Ganges, about 50 miles northeast of Delhi, brought death to 15, 11 of them children, three women and a man. . . . In Singapore a warehouse fire took lives of 10 persons, left 100 others homeless. . . . Three fireboats with land apparatus of the New York Fire Department responding on three alarms, extinguished a fire on the Swedish freighter "Bokefors" December 2 last at her pier in Brooklyn. Fire broke out in engine room and a forward hold containing sisal. . . . Mayor Manuel de la Fuente of Manila ordered police to crack down on sale and possession of firecrackers during the Christmas season. Reports were prevalent that Communist-led Hukbalahap guerillas planned to carry out a "liquidation" program against their enemies in Manila, under cover of popping fireworks. . . . Five workers, of thirty who were injured in a blast at a rayon and cellulose factory at Fordi, Italy, were hospitalized after being dug from the ruins.

* * *

Chute Not Sufficient Safety for Dancers

Firemaster W. H. Moore MBE, of Fife, England, notified the Leven Town Council that a canvas chute, which was under consideration as a means of exit from a dance hall accommodating 200 people and, alternately, a rope ladder, were entirely unsuitable.

Instead, a plan for conversion of certain windows into double doors opening onto an iron staircase was recommended and accepted by the Council.—(FIRE)

Preventing Cotton Fires

Because of growing concern over mounting cotton fire losses in recent years, the National Board of Fire Underwriters has issued a 34-page research report on the causes and prevention of cotton fires.

Based upon two extensive field surveys conducted during the peak ginning periods of the 1948 and 1949 seasons, the report is entitled "Survey on Causes and Prevention of Cotton Fires."

The publication points out that "Cotton appears to be destined as a critical material" because of unfavorable weather conditions in part of the cotton belt during 1950 and because of strong demands resulting from the Korean conflict and world unrest.

Fires, which destroyed the output of nearly 200,000 acres of productive farmland during the 1945-1946 cotton season, with a dollar loss estimated at $17,000,000, could cause a more severe shortage if they continue as in recent years, the report asserts.

Among the leading causes of these fires were careless smoking, poor housekeeping in cotton gin yards, sparks caused by foreign matter mixed in with cotton, static electricity, incinerators used in waste disposal, lack of a safe loading pattern in box-cars, and defective tie-bands.

Another hazard is the so-called "fire-packed bale," which may smoulder and burn for a long period of time before bursting into flame and causing wide destruction.

The report points out that yearly losses in cotton fires could be reduced by increased education in the rudiments of fire prevention and protection, improvements in housekeeping around operating and storage areas, and research and technical developments in fire control.

The study of the cotton fire problem was made with the cooperation of the Cotton Fire and Marine Underwriters, Cotton Insurance Associates, Cotton Warehouse Association, and South-Eastern Underwriters Association.

Copies of the report are available from the National Board of Fire Underwriters, 85 John Street, New York 7, N. Y.

"Going to Blazes"

Fire fighting and fire fighters continue to provide plenty of thrill material for books for the young and elderly. Latest of the more comprehensive volumes is "Going to Blazes," written by Robert V. Masters and published by Sterling Publishing Co., New York City [price $3.50].

Within its 144 pages and cloth board cover, the author has managed to tell an interesting story about fire, the servant of man—and fire, the master, and about the forces that fight fire to prevent our annihilation.

The book is profusely illustrated with photographs, and abounds in anecdotes and descriptions of fire protection efforts in city, town and country. Many of the illustrations by Ed Heavey have not heretofore been published.

Here is a book for the student fire fighter, and the fire prevention engineer, the civil defense director and all those folks who thrill to the sound of the siren and bell.

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For Practical Discussion of Current Fire Department and Fire Management Problems

FIRE DEPARTMENT TRAFFIC PROBLEMS

THAT mounting automobile traffic throughout the nation is unquestionably posing increasingly serious problems for fire departments is attested by the replies to the Round Table questions asked in the last issue.

These questions covered right of way of fire apparatus in traffic areas and on one-way streets; rate of speed; responsibility for accidents and driver protection; fire lanes, protection furnished by police; and parking restrictions.

For the most part the respondents quoted in this issue are municipal chiefs and their problems are limited to paid, municipal forces. It is quite different with the average volunteer department, where liability must include response of volunteers in private cars, and where there is not the same degree of legal protection and police cooperation.

The evidence indicates all municipalities, large and small, have their traffic problems. Not many have fire lanes in which traffic and parking is restricted to further the response of emergency vehicles, but many chiefs would like to have them. Parking in one-way thoroughfares is generally restricted to one side, but chiefs complain generally about the difficulty of bucking traffic, even where sirens, bells and lights are used.

In most cities no speed limits are set for responding vehicles but drivers are required to use caution. Some State laws make it mandatory that full stops must be made before passing through red lights. In other departments regulations require drivers to slow and shift gears before such crossings. A number of cities have set different speed limits for different types of apparatus, allowing rescue squads to operate at higher speeds than pumpers and ladder trucks.

Liability of drivers is a moot question. In the majority of cities the apparatus driver is covered by local and/or state law against suit to recover damages in case of accident. In some, drivers are held liable. In others, they are liable only when reckless disregard of safety can be proved. In most cities the local corporation counsel defends fire department drivers in case of legal action arising out of traffic accidents.

Police cooperation is universal, being more relied upon where traffic officers are on post to regulate traffic. It is a growing practice to have police radio-equipped squad cars respond on all alarms. These officers aid in investigating accidents, and directing traffic on the fire ground.

The study indicates an increased use of the fire alarm headquarters-controlled traffic signal systems, whereby traffic lights can be made to show all-red, or all-orange, or flashing red or orange, to facilitate responding apparatus.

The survey also emphasizes the importance of the use of the siren in spurring and safeguarding response, and in the prevention of accidents and lawsuits. Fire chiefs may well ponder this phase when requested by civil defense directors to discontinue such essential warning signals.

While this question was asked of chiefs of large departments, we realize that traffic is a problem of volunteer departments as well. We would appreciate having the comments of these chiefs. Address replies to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

HERE IS THE TOPIC

1. **Is fire apparatus given the right of way in heavy traffic areas, in passing red lights and going down one-way streets against traffic as the shortest means of getting to the fire?**
2. **Is the rate of speed regulated upon going to a fire? If so, what speed?**
3. **Who is responsible in the event an accident does occur? How is the driver protected?**
4. **Do you have fire lanes and what protection do you get from the police department when responding to fires in these fire lanes?**
5. **Is parking restricted to one side on said fire lanes, or is parking permitted on both sides?**

Discussion of the Topic

Henry G. Thomas, Chief, Hartford, Conn.: Hartford, like most of our present day cities, has its traffic problems and response to alarms, particularly during the busy rush hours, is difficult, tedious and always a potential causalty hazard to men and apparatus.

We do enjoy full and complete cooperation and assistance from our Police Department. Individually and collectively they strive to give us the right of way and to insist that the motorist obey such ordinances as are applicable.

We do have the right of way at all times responding to an alarm, and can pass through red traffic light and/or traverse one way streets.

There is no fixed rate of speed imposed on our drivers, but we do insist that all drivers have complete control of their apparatus at all times and drivers are held accountable for all preventable accidents.

Drivers are cautioned to proceed through red lights or against traffic on one-way streets with extreme care and to be able to stop the apparatus if the need arises. This, of course, reduces the speed of response but we find it safer.

In fact we have a sort of slogan which is, "It is better to get there a little late than not to get there at all."

All accidents, whether big or small, are investigated by the police at the site of the accident. This is possible because the officer in charge of the apparatus or vehicle is required to immediately notify the dispatcher at Fire Headquarters who in turn notifies the police.

Police cruisers answer every alarm, box alarm or still, and thus provide for traffic direction at the fire scene.

We have no established fire lanes.

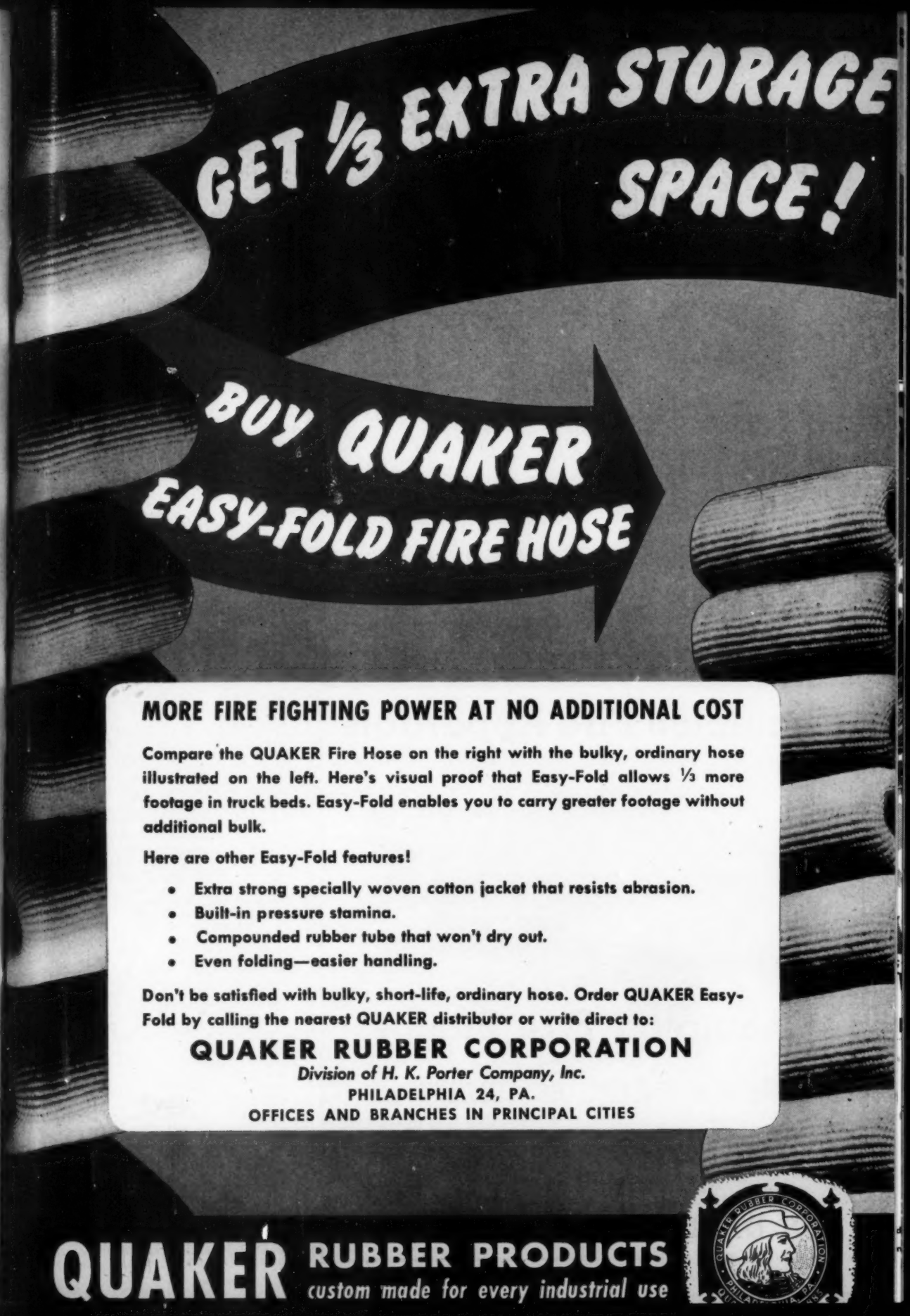
Reynold C. Malmquist, Chief, Minneapolis, Minn.: All emergency apparatus, including fire apparatus, is given the right of way in heavy traffic areas, in fact, all areas, in passing red lights and going down one-way streets against traffic as the shortest means of getting to a fire in Minneapolis.

Speed is not regulated. Captains are to see that drivers drive as safely as possible, according to traffic conditions.

In the event of an accident, it is sometimes necessary for the courts to decide who was to blame. The City Attorney in Minneapolis defends the driver in any suit.

We have no fire lanes. On main thoroughfares, where police officers are stationed at regular intervals, they, upon hearing a siren approaching, get out in the middle of the street to clear the right of way for the emergency vehicle.

Hoyt M. Ayers, Chief, Birmingham, Ala.: Our city code reads as follows: The driver of a vehicle upon a street shall yield the right of way to authorized emergency vehicles traveling in emergencies when the drivers of such emergency vehicles sound audible sig-



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nal by bell, siren or exhaust whistle; provided, that this provision shall not relieve the drivers of such vehicles from the consequences of a reckless disregard of the safety of others.

Drivers and officers are instructed to travel at a safe rate of speed; there is no set limit, a set rate of speed depending on existing conditions; such as, weather conditions, amount of traffic, condition of streets, etc.

The City of Birmingham cannot be held responsible for an accident in which city vehicles are involved. The driver of any such vehicle is not protected from the consquences of a reckless disregard of the safety of the person or property of others.

Due to our reasonably wide streets and avenues, we do not have fire lanes.

We receive excellent cooperation from the Police Department. They answer alarms with us and handle traffic during emergencies.

Hugh F. Fisher, Chief, Lansing, Mich.: Fire apparatus in Lansing is given the right of way, but only with safety precautions such as slowing down at cross streets, red lights, turns, etc. We have no one way streets yet.

Operation of Vehicles on Approach of Authorized Emergency Vehicles

Section 62. Upon the approach of any authorized emergency vehicle or vehicle giving audible signal the driver of every other vehicle shall immediately drive the same to a position as near as possible and parallel to the right hand edge or curb of the street, clear of any intersection, and shall stop and remain in such position until the authorized emergency vehicle or vehicles shall have passed unless otherwise directed by a police officer shall immediately stop such car clear of any intersection and keep it in such position until the authorized emergency vehicle or vehicles shall have passed, unless otherwise directed by a police officer.

Following Fire Apparatus Prohibited

Section 63. It shall be unlawful for the driver of any vehicle, other than one on official business, to follow closely any fire apparatus traveling in response to a fire alarm, or to drive into or stop any vehicle within the block where fire apparatus has stopped in answer to a fire alarm.

Crossing Fire Hose

Section 64. No vehicle shall be driven over any unprotected hose of the fire department when laid down on any street, or private driveway to be used at any fire or alarm of fire without the consent of the fire department official in command.

Exceptions to Right of Way

Section 57. (a) The driver of a vehicle entering a public highway from a private road or drive shall yield the right of way to all vehicles approaching on such public highway.

(b) The driver of a vehicle upon a highway shall yield the right of way to authorized emergency vehicles when the latter are operated in emergencies and the drivers thereof sound audible signal. This provision shall not operate to relieve the driver of an authorized emergency vehicle from the duty to drive with due regard for the safety of all persons using the highway, nor shall it protect the driver of any such vehicle from the consequences of arbitrary exercise of such right of way.

When Speed Limit Not Applicable

Section 54. The speed limits set forth in this act shall not apply to authorized emergency vehicles when operated in emergencies and the drivers thereof sound audible signal by bell, siren or exhaust whistle. This provision shall not relieve the driver of an authorized emergency vehicle from the duty to drive with due regard for the safety of all persons using the street, nor shall it protect

the driver of any such vehicle from the consequences of a reckless disregard of the safety of others.

Thirty-five miles per hour is permitted in excellent driving weather and conditions, but vehicles are ordered to go no faster than safety allows.

Responsibility no doubt would have to be determined in court. The driver is protected by public liability insurance (up to $300,000.00 per accident) and property damage up to $50,000.00 damage. We have an extensive engineer training program stressing safety.

We have no fire lanes, but a traffic signal control is soon to be put into service whereby all intersections can be given red lights in all directions to allow the fire department to pass through. This will be in effect in the central area where traffic is heavy. The police department gives us through lane traffic whenever it can be given (by patrolmen).

Parking is restricted to one side of the street only on all narrow streets in Lansing. However, in the downtown area parking is allowed on both sides of the street, but the streets are wide.

C. E. Swanson, Chief, Sioux Falls, S. Dak.: At present, we do not have one-way traffic streets. As our trucks and other vehicles have mounted red lights and signals, according to State law, we are authorized to go through red lights in answering alarms.

Speed is regulated by the conditions, there is no specified speed, but is based on good sound judgment of conditions.

The city carries liability insurance on the fire vehicles. If the driver has shown due responsibility and judgment, he is not held responsible.

We do not have in this city at present 'fire lanes.' As soon as an alarm is received, the switchboard operator notifies by direct telephone line, the address of the origin of the alarm, and they in turn put it out over their radio system to their cars in that vicinity. This seems to have worked out very nicely, and good cooperation is shown by the Police Dept.

Some particular streets do have the situation, where parking is permitted on only *one* side of the street. We do not have regular, designated fire lanes, at present. Outside of a certain number of streets, double parking is permitted.

J. L. Croom, Chief, Wilmington, N. C.: Fire apparatus is given the right-of-way in heavy traffic areas, through red lights and one-way streets as the shortest means of getting to the fire. The rate of speed is left up to the judgment of the driver to make as much time as possible in the safest manner. In the event an accident occurs the driver is held responsible and is protected by state laws.

We have only one fire lane and do not receive police protection in this lane. Parking is prohibited on one side of the lane.

Olaf Sorenson, Chief, Superior, Wis.: Our emergency apparatus is given right of way in traffic areas and through red lights. In passing red lights our drivers are under orders to use caution.

The speed of all fire department apparatus including our ambulance is restricted to 35 miles per hour. We find this is ample speed and the cap-

IN 1951

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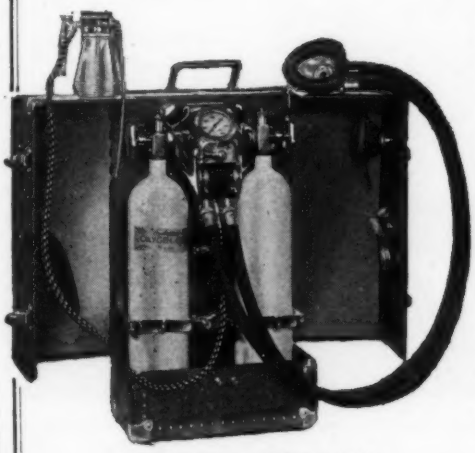

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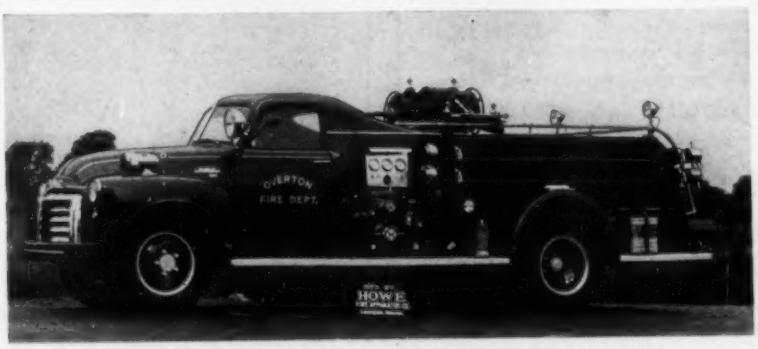

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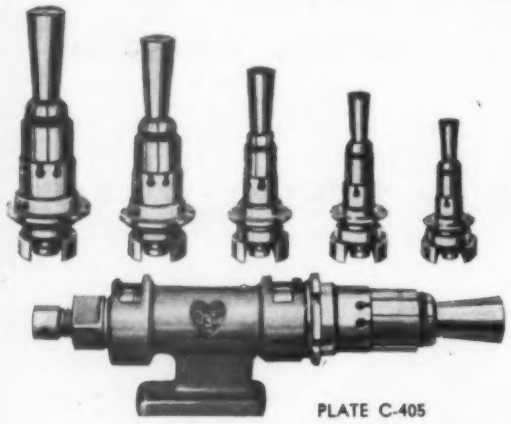

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FIRESUITS

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All you do is fold together and snap to coat for Summer wear. Then unsnap in Winter for full protection of chest against cold and water.

Detachable Linings
MITTENS - SUSPENDERS

Morning Pride Mfg. Co.
1986 HOME AVENUE
DAYTON (7) OHIO

tain in charge sees that this speed is not exceeded. In ambulance coverage the speed is restricted to 35 miles per hour except when it is definitely known that it is a matter of life or death and then the vehicle must be under control at all times.

The driver of course is directly responsible for the operation of the fire apparatus but the city has blanket insurance covering every type of accident to protect the drivers and operators of fire apparatus.

We do not have fire lanes and parking is rather unlimited, but we are a city of 35,000 population with 42 square miles and our streets are exceptionally wide so that traffic is not a serious problem for our apparatus. We do find that in winter when we experience cold weather, the sedan cars do not respond too well to sirens alone, but we have provided the oscillating type red light mounted rather high that does give us response from other vehicles. Our police department is very cooperative with the fire department both in clearing traffic and handling traffic at fires, and without them we could easily get into some difficult traffic situations.

William J. Connelly, Chief, Syracuse, N. Y.: Apparatus of the Syracuse Department of Fire is given the right of way on a more or less limited basis, when in heavy traffic areas en route to alarms of fire.

While the traffic lights in the downtown section of the city are turned red, for about two or three minutes, this does not halt all traffic, since some drivers are prone to disregard the danger signal. In fact, there have been instances where motorists engaged the apparatus in a race to the fire.

As matters stand right now, apparatus does not move against traffic on one-way thoroughfares. As can readily be seen, this situation at times impedes the movement of apparatus to a fire in the "diamond" or high value district.

All companies are under orders to hold the speed of apparatus and other vehicles down to 25 miles an hour.

The apparatus and all other automotive equipment is insured and in case of an accident, the entire matter is turned over to the corporation counsel, who heads the city's department of law.

We do not have fire lanes but I would be very much in favor of their establishment. Such a program, I believe, aids materially in expediting the movement of apparatus, and other fire department automotive equipment to a fire or scene of any other emergency.

Charles B. Kuhl, Chief, Sioux City, Ia.: Fire apparatus is given the right of way in heavy traffic areas. The traffic lights are controlled by the fire alarm operator on duty on the street the apparatus is traveling. We have no one-way streets.

We have no speed regulation. Drivers are instructed to drive with caution and to stop if necessary to avoid an accident.

We use siren going to the fire and the bell returning. If the siren is in use, we are not liable. The driver is protected under state law.

We have fire lanes on narrow streets but these are just a few spots. Parking is restricted on one side on these lanes.

What's Burning

THE following list includes fires of $10,000 loss and over in the United States and Canada for the month of December, 1950.

Month Ending December 31, 1950

Lafayette, Ind. — Grain elevator owned by Lafayette Co-operative Elevator Co., destroyed.
Wabash, Ind.—Masonic Temple, City Hall and five other buildings, damaged.
Somerset, Ky.—Somerset Dept. Store, Hughes Dept. Store, Weddle's Barber Shop and Spencer's Restaurant, damaged.
New Orleans, La.—Building occupied by S. V. Electrical Shop, damaged.
Hagerstown, Md.—Main Exhibition Hall, Fair Ground, destroyed.
Boston, Mass.—Allied Tire Co. plant, damaged.
Brentwood, Mo.—Incompleted Audubon Park Apts., damaged. Accidentally knocked over oil heater.
Asbury Park, N. J.—S. & S. Tavern and adjoining building, occupied by Murray's Pants Shop, damaged.
New Castle, Pa.—The Arena, sports center, damaged.
Belton, S. C.—Belton High School, damaged. Overheated furnace.
De Kalb, Ill.—Business building occupied by American Steel and Wire Co. and De Kalb Agricultural Assn., damaged.
Rock Falls, Ill.—Rock Falls Christian Church, destroyed.
Muskegon, Mich.—Muskegon Screw Works plant, damaged.
Jasper, Minn.—The Intl. Harvester agency owned by C. J. Hey, damaged.
Troy, N. Y.—Lewis Apparel Store, Simons Sign Display Co. and Ideal Beauty Shop, Lord Furniture Co. and Pagoda Restaurant, damaged.
Wolcott, N. Y.—Sheehan Farms Celery Packing plant and warehouse, damaged.
Mansfield, Ohio—Plant of West Universal Dry Cleaning Co., damaged. Explosion of chemicals.
Belton, S. C.—The Belton Mill School destroyed. Overheated furnace.
Charleston, S. C.—Etiwan Fertilizer Co., 21 freight cars, destroyed. Defective wiring.
Alton, Ill.—Uptown Theatre damaged.
Chicago, Ill.—Sixty-five automobiles at Perfection Motors and Park Wine and Liquor Store and Drexel Sandwich Shop in same building, damaged.
Opheim, Mont.—Occident elevator annex, destroyed.
Seven Mile, Ohio—Grain elevator owned by Farm Bureau Co-Operative.
Norfolk, Va.—Frame theatre, Unit "X" Norfolk Naval Base, destroyed.
Doly Alberta, Ont.—Butcher shop, garage, hardware store, machine agency service station, electrical appliance store, grocery store and restaurant and egg grading station, heavily damaged.
North Vernon, Ind.—Drugstore, upper half of bank building and several other buildings, damaged.
Chester, Mont.—International elevator destroyed.
Scotts Bluff, Neb.—Webster Furniture store, destroyed.
Toledo, Ohio—Drug store, variety shop and bakery shop destroyed.
North Braddock, Pa.—DePalma's Tailor Shop, Lucky's Shoe Repair Shop, Model Cleaners, Santos' Fruit Market, Stanley's Confectionery, Fourth St. Barber Shop and Western Furnace and Radio Repair Shop damaged.
Keystone, S. D.—Dwelling of Mr. and Mrs. Bud Davidson destroyed; also dwelling of James Halley destroyed. Defective wiring.
Montreal, Que.—Building occupied by Trans Allied Refrigeration Co., Cornet Refrigeration Sales, destroyed. Two adjacent houses and six flats at rear of rooming house, damaged.
Ottawa, Ont.—Combined warehouse and garage of Ottawa-Montreal Express Co. damaged. Four trucks, including one fully loaded trailer, destroyed.
Boise, Idaho—Four-story Montgomery Ward store damaged.
Los Angeles, Cal.—Sirocco Room of Sunset Strip nightclub damaged. Cigarette disposal unit.
Pittsburgh, Pa.—Business building, North Braddock section, damaged.
Knoxville, Tenn.—Pine Grove Baptist Church destroyed. Defective wiring.
Springhill, Tenn.—Tennessee Orphanage Home dormitory destroyed. Defective wiring.
Port Credit, Ont.—Plant of Port Credit Motor Sales, 30 cars and trucks, damaged.
Moultrie, Ga.—Pimieno pepper plant of Moultrie Packing Co. destroyed.
Battle Creek, Mich.—Kendell Hardware & Supply Co. store damaged.

NEW WAY
to make rescue!

FIRE DEPT. MODEL

Today's laddermen lower victims on the DAVY automatic Fire Escape. Just hook onto ladder rung—place strap under victim's arm pits—lift out of window and the DAVY does the rest. Lowers victim slowly and leaves ANOTHER strap to lower second victim. Any number of people can be lowered FASTER and SAFER with NO RISK to either victim or fireman.

HOTELS and INSTITUTION MODEL

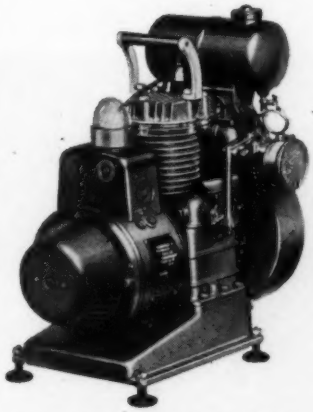
Proven in over 40 years' use in Europe and America. Will lower person 20 stories in about one minute—soon as one person reaches ground another strap is ready for second person and so on—FASTER than raising a ladder—safer than any other rescue device—fully automatic—lasts for years and years. Recommend it now before catastrophe occurs!

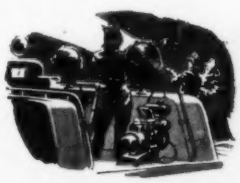
DEALERS

Fire Depts. everywhere are in immediate need of the "DAVY" Automatic FIRE ESCAPE. Sell one model to all fire depts., sell another model to hotels, etc. Write for dealer proposition.

DAVY AUTOMATIC FIRE ESCAPE CO.
Colvin Station, Box 51, Syracuse 5, N. Y.

KOHLER ELECTRIC PLANTS
Independent Source of Electricity
PORTABLE AND MOBILE





Low-cost model, 1500 watts for intermittent duty, operates floodlights, tools having universal (AC-DC) motors. Increases fire-fighting efficiency. Compact—weighs 75 lbs. Handle for carrying. Powered by 4-cycle, air-cooled engine. Other sizes from 350 watts to 15KW. Write for folder H.

MODEL 1.5MS, *1500 watts, 115 volt DC. Manual control. Length 18", width 14", height 21".*

Kohler Co., Kohler, Wisconsin. Established 1873.

KOHLER OF KOHLER
PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS
AIR-COOLED ENGINES • PRECISION PARTS

Fires won't wait while you struggle with unwieldy hose.

That's why experienced firefighters have preferred *Hewitt Fire Hose* for over 75 years!

They know it is light and flexible for fast action . . . yet rugged for long life. They know, too, that its quality construction minimizes elongation and twisting . . . assures high burst-resistance.

Learn how *Hewitt Fire Hose* can help you. Write today.

HEWITT RUBBER DIVISION
240 Kensington Avenue, Buffalo 5, New York

HEWITT FIRE HOSE

HEWITT-ROBINS INCORPORATED

Janesville

TURN OUT SUITS

Give

RUGGED SERVICE

Make your next coat "Janesville" and specify "Scotchlite" trim. Either rubber or duck coats are available with "Scotchlite" trim for your protection.

THERE MUST BE A REASON WHY SO MANY FIREMEN INSIST ON "JANESVILLE" QUALITY

We Welcome Your Inquiry

Janesville APPAREL CO.
JANESVILLE, WISCONSIN

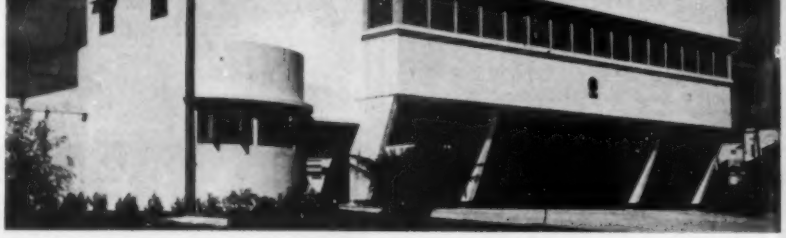
Seattle, Wash.—Palladium Dance Pavilion, destroyed.
Belle Glade, Fla.—Belle Glade Farmers Co-operative packing plant and warehouse and American Fruit Growers packing plant destroyed.
Lakeview, Mich.—Powerhouse of Rural Electrification Administration, Little Muskegon, destroyed. Lightning bolt.
Lock Haven, Pa.—Wolf Furniture Co. damaged.
Easton, Pa.—Merkin Auto Springs Co. damaged. Sparks from welding tool.
Markesan, Wis.—Warehouse owned by Dr. J. A. Freudenberg, destroyed. Defective wiring.
Newburgh, N. Y.—Two hangars and seven planes at the Newburgh-Walden Airport, destroyed.
Rockville Centre, L. I., N. Y.—Wallace Post Lumber Yard, woodwork shop and warehouse, damaged.
Dunnville, Ont.—Grigg Flour and Feed Mill destroyed.
Brookfield, Conn.—The basement and first floor of the 2½-story frame home of Wallace Jordan damaged.
New Orleans, La.—Floats and spangled costumes of the 1951 Rex Mardi Gras Parade at the Rex Organization's Mardi Gras Den, damaged.
Florham Park, N. J.—Braidborn Country Club damaged.
West Orange, N. J.—Crystal Lake Casino destroyed.
Toronto, Ont.—Business block occupied by a furniture store, undertaking parlor, tobacco warehouse, barber shop, electrical store, photographic studio, restaurant, taxi stand, and four apartments destroyed. Oil stove exploded in taxi stand.
Forrest City, Ark.—Laser Variety Store, David's Grocery and Grimes Cafe destroyed. Dillons-Ready-to-Wear, Davidson's Worth-More store and Perry's Grocery damaged.
Pyatt, Ark.—The Sugar Orchard Canning Company plant destroyed. About 3,000 cases of canned tomatoes destroyed, in addition to buildings, machinery and a large stock of empty cans.
Monte Vista, Cal.—Permanente Cement plant damaged.
Stillwater, Minn.—St. Paul-Pufahl Foundry, Inc., damaged.
Paoli, Pa.—Club House of Chester Valley Country Club destroyed.
Pottsville, Pa.—Business building occupied by F. W. Woolworth Co. store and Raring shoe store, destroyed.
Barbourville, Ky.—The Gray Baptist Church destroyed. Overheated furnace.
Hempstead, N. Y.—East Meadow Elementary School damaged.
Dallas, Tex.—Downtown business section damaged.
Point Pleasant, W. Va.—O. J. Morrison Co. department store damaged.
Ladysmith, Wis.—The Milwaukee Bedding Co. destroyed.
Fremont, Ohio—Fremont Tool & Die Co. destroyed.
Toronto, Ont.—Plant of Export Publishing Co. destroyed.
Miami, Fla.—F. A. Jones Corp. plant damaged.

INDEX FOR 1950

The index, covering the twelve issues of Fire Engineering for 1950 is now ready for distribution.

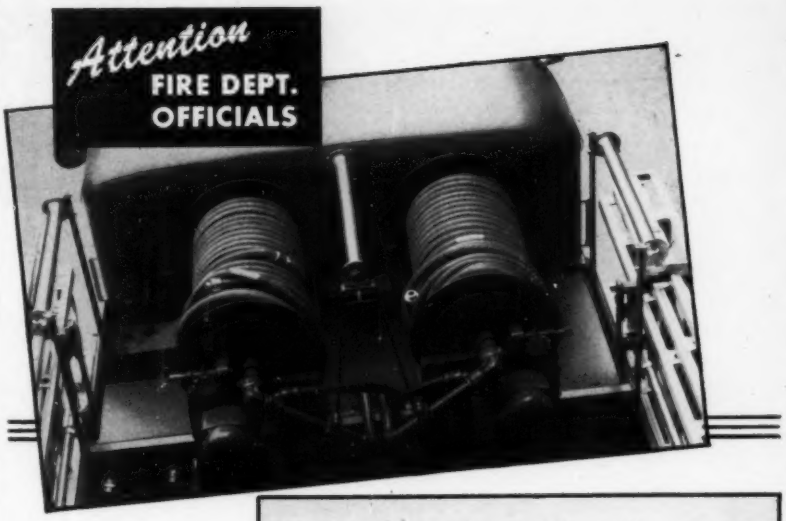
Your copy will be mailed free upon request.

East Chicago, Ind.—Socony-Vacuum Refinery damaged.
Corydon, Ind.—Evangelical United Brethren Church damaged. Overheated furnace.
Wadesboro, N. C.—Planing mill of Coxe Lumber Co., Lilesville, destroyed.
Hamilton, Ohio—Grain elevator on farm of Farm Bureau Co-Operative Association, destroyed.
Dallas, Tex.—Coast Range Timber Products Co. destroyed. Short circuit.
Nome, Alaska—Nome Bakery destroyed.
Scottsbluff, Neb.—Pavey-Weiler Music Co. and Burr Chain Department Store destroyed.
New Milford, N. J.—New Milford Rubber Plant destroyed.
Vineland, N. J.—Kutok Building destroyed.
Chicago, Ill.—A four-story tenement building, wooden interiored structure at 124 East 31st St., destroyed.
Zanesville, Ohio—Four-story Starr Department Store, the 4th and 5th floors of the Citizen's Natl. Bank, and two other buildings, damaged.
Sherwood, Ore.—Tit Tat Cafe, Commercial Studios, Sherwood Garage, destroyed.
Johnstown, Pa.—The Franklin Street Methodist Church destroyed.
Grapevine, Tex.—The Grapevine-Euless Co-Operative Feed Mill destroyed.
Hayden, Ariz.—Rex Theatre destroyed.
Greenville, Miss.—Tennessee Gas Transmission Co. valve house, a tenant house and three barns on Refuge Plantation destroyed.
Cadiz, Ohio—Star Vulvanizing Co. building; also hardware store. Defective wiring.
Marengo, Ohio—L. P. Fuller & Son garage destroyed.
Zanesville, Ohio—Prindle's bowling alley, Bonifield hardware store, Spiegel's hardware and auto accessories store, destroyed. Overheated gas heater.
Brownfield, Tex.—The new Furr Food Supermarket damaged.
Burritts Rapids, Ont.—Burritts Rapids Woolen Mills plant damaged.
New Orleans, La.—Business building occupied by an electric supply company and 20-room Oliver Hotel damaged.
Malden, Mass.—Atlantic Woodworking Corp. damaged.
Wakefield, Mass.—Town Hall damaged. Rubbish accumulation.



Dominican Fire Station in the Modern Motif
One of the newest fire stations, and said to be the smartest, architecturally speaking, throughout South America, is this one recently built for Cuidad Trujillo, Dominican Republic.

Denver, Colo.—Beth Had Medrosh Synagogue damaged.
Algona, Ia.—Gall theatre and Dean's watch shop destroyed; Kent Motor Co. and Pratt Electric Co. damaged.
Fort Madison, Ia.—Building occupied by Central Department store and apartments destroyed.
Fulton, Ky.—Browder Milling Co. flour and feed mill and feed warehouse destroyed.
South Boston, Mass.—Everybody's Super Market of Alvin C. Roover and Old Colony Bottling Co. damaged.
Woburn, Mass.—Gorin Leeder building damaged.
Battle Creek, Mich.—L. G. McDaniel Co. floor covering store, destroyed.
Iron Mountain, Mich.—Holy Trinity Episcopal Church damaged.
Mansfield, Ohio—Electrical and machine shops of Empire Steel Co. destroyed.
Medina, Tenn.—Farmers Gin Co. destroyed.
Richmond, Va.—St. Catherine's School gymnasium and staff dormitory, Westhampton, destroyed.
Richmond, Va.—Richmond Fixture and Equipment Co. destroyed.
Gallagher, W. Va.—General stores, a post office and adjacent restaurant, destroyed.
Huntington, W. Va.—Adelphia Hotel and adjacent building destroyed.
Margate, N. J.—Dwelling ocupied by Carroll Rosenbloom damaged.
Union City, N. J.—Four stores on Bergenline avenue, Elbe Fabrics, Winston jewelry store, a military shop and Durval's store, damaged.
Nelson, N. J.—The Nelson Cheese Co. factory destroyed.
Allentown, Pa.—Lehigh Valley Chemical Co. whse. destroyed.
Charleston, S. C.—Atlantic Coast Line railroad at Yongue's Island, damaged.
Milwaukee, Wis—Interior of St. Paul's Episcopal Church, damaged.
Fontana, Cal.—The Valley Hatchery destroyed.
Tampa, Fla.—Macaroni factory destroyed.
Macon, Ga.—Dwelling of Kathleen Rogers Pape destroyed.
Streater, Ill.—Garage of Robert Campbell Nash Agency destroyed. Adj. Kaiser-Frazer Agency of Louis Grabowski, destroyed.
Story City, Ia.—Cement block bldg. occupied by Arvie Jacobson feed and seed store and Edward Hermanson locker plt. damaged.
New Orleans, La.—Esso Baltimore tanker damaged. Collided with tow of barges and explosion.
Framingham, Mass.—Smith Bldg., occupied by Terminal Drug Co., Cradle Shop and Brown & Horton's Sport Shop, damaged.
Malden, Mass.—Plt. of New England Gas Products Co. destroyed. Acetylene gas explosion.
Taunton, Mass.—Factory of Brown Equip. Co., 20 unfinished trailer trucks and factory of Gregg Silver Co. damaged.
Atlantic City, N. J.—Palatial beachfront dwelling of Carroll Rosenbloom, destroyed.
Cedarhurst, L. I., N. Y.—Bldg. occupied by super market, carpet cleaning co., automobile upholstery shop, photo laboratory and vacant store, destroyed.
Rockville Centre, L. I., N. Y.—Sunrise bldg. damaged.
Cincinnati, Ohio—Crestview Garden Inn damaged.
Oklahoma City, Okla.—Grapevine Euless Co. Cooperative Fed Mill damaged.
New Castle, Pa.—Bordonaro Canfora fruit company whse. damaged. Faulty gas refrigeration unit.
New Kensington, Pa.—Confectionery story of Henry Ciancutti and adj. Peoples Furniture Co. whse. damaged.
Gimli, Man.—Central Garage destroyed.
Rimouski, Que.—Quebec provincial govt.'s fish-drying and storage plt., in East Rimouski, destroyed. Over 1,500,000 pounds dried codfish lost. Ammonium tanks and oil drums exploding during fire.
Winnipeg, Man.—Waldhorn's Grocery whse. and Rusen's wholesale fruit store destroyed.
Kenora, Ont.—Bldg. occupied by Zeal & Gold Clothing Store and Kenora Masonic Temple destroyed.
Port Credit, Ont.—Plt. of Federal Sales & Engineering Co. destroyed.
Tampa, Fla.—Seminole Ice Co. plt. destroyed.
Rochelle, Ill.—Three bldgs., The Hornsby five and Ten cent store, The Style Shop and Spurgeon bldg., destroyed.
Brazil, Ind.—Bldg. occupied by Kroger Co. grocery, destroyed.
Crawfordsville, Ind.—The Montgomery County Farm Bureau bldg., destroyed.
Hibbing, Minn.—Shops at Section 18 mine, operated by M. A. Hanna Mining Co., damaged.
St. Paul, Minn.—Klein Super Market damaged.
Mount City, Mo.—Whse. of Petijohn & Crawford Furniture Co. damaged. Adj. bldgs. also damaged.
Warrenburg, N. Y.—Music Hall bldg., downtown section, occupied by Dickenson & Bertrand Drug Store, Orton & McCloskey Funeral Home, John Pitkin Barber Shop, Erie Walker grocery store, law office of J. R. S. McNally, dental office of Dr. Joseph Garber and an apt., damaged.



It's the New

Seagrave Fire Truck
equipped with the New Hannay Hose Reels

HANNAY HOSE REEL

WATER-RESISTANT
VAPOR-RESISTANT
EXPLOSION-PROOF

New models for fire trucks and airport crash trucks are especially designed with extra strong construction to withstand high pressures and the motor is protected against fog, foam, water and fumes. Developed to overcome the danger factors previously associated with electrical rewinds, the Hannay Reel has been PROVEN SAFE and efficient in exacting factory and field service tests. Explosion-proof, heavy duty motor with permanently lubricated bearings is Underwriters Approved Class 1, Group D, and is an integral part of the reel; needs no attention.

- **Can be connected through conduit, for sealed, safe installation.**
- **Sealed push button control; "push" to start; "release" to stop.**
- **Quiet, positive sprocket and chain drive; no gears to shift; no clutch to engage.**
- **Safe rewind speed, always under control.**
- **Smartly designed, compact, durable, dependable.**
- **Simplicity of construction and operation reduces maintenance costs to a minimum.**

ASK YOUR SUPPLIER
or write direct for
full information.

HANNAY
REG. U.S. PAT. OFF.
HOSE REELS
CLIFFORD B. HANNAY & SON, Inc.
WESTERLO, NEW YORK

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INVINCIBLE NOZZLES

Firebeat Tower Nozzle

with full Transverse Control

•

Figure 114-B — one of many — made by pioneers in nozzle manufacture.

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"ALL AMERICAN CHOICE"

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Latest Design

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Operated by Remote Control

•

F. N. McINTIRE BRASS WORKS

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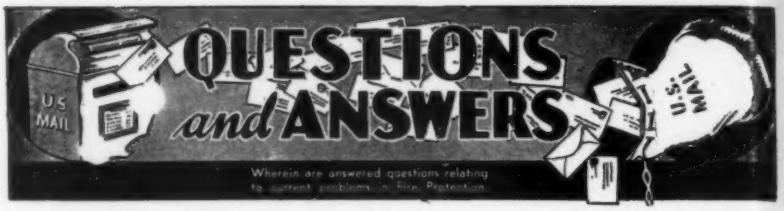
1837 — 1951

PACIFIC PUMPER
— AMERICA'S "No. 1" PORTABLE FIRE-FIGHTER!

Powerful, dependable, and easy to transport, Pacific Pumpers conform perfectly to fire protection needs in forests, industries, resorts, small communities. The Model W, most recent addition to an extensive line, is powered by a 4-cycle air-cooled engine, delivers 14 g.p.m. at 300 p.s.i. or 22 g.p.m. at 50 p.s.i., weighs only 90 lbs. Write for helpful literature on portable pumpers, and catalog of hose, nozzles, fire-fighting accessories.

PACIFIC Marine Supply Co
FIRE EQUIPMENT DIVISION
SEATTLE 1, WASHINGTON



Value of Relay Pumping

To the Editor:

I am not seeking any argument, but have always thought that a good deal of relay pumping was unnecessary. Last Thursday evening we were called to a barn fire, and upon arriving found the place completely involved. Because of exposures it was necessary to stretch 2400 feet of 2½-inch hose to a brook. With one pumper (500 gallon) relaying to a second pumper (500 gallon) we were able to get a very good 1⅛-inch stream. Now to clean up and also return both pumpers to the station, it was decided to use our war surplus trailer pump (500 gallon) and reduce the 2½-inch hose to two lines of 1½-inch, with ½-inch tips. Of course, we had our doubts because of the friction loss, but we tried it. The pump was set up at the brook and put into operation. The lift was about 12 feet and the pump pressure was 120 pounds. We got two as good streams as anyone would want, and I only wished we had tried the same, backed up with a nozzle on the 2½-inch line. I believe that a modern pumper will handle larger stretches than they get credit for.

If two pumps are operating in relay, one a 750-gallon pump and the other a 500-gallon pump, isn't it proper to put the one of greater capacity at the source of supply? Why?

If one line is being taken off a pumper, is it necessary to use an outlet at the opposite side from the suction, or can any outlet be used?

D. B.

Answer: It is frequently unnecessary to place engines in relay in handling fires a considerable distance from the source of water supply, particularly where a comparatively small amount of water is required.

For example, if a lay of 2400 feet of hose is required, and 1-inch nozzle is satisfactory, the engine pressure would have to be 245 pounds, and the discharge would be 187 gallons per minute.

Now a single pumper could handle this layout satisfactorily. But if a larger quantity of water is required, necessitating a 1¼-inch nozzle, for example, then the problem would be entirely different.

Suppose we were required to stretch 2400 feet of hose, and employ a 1¼-inch nozzle at 50 pounds nozzle pressure. The engine pressure would have to be 650 pounds.

Or if the nozzle pressure were only 40 pounds, the engine presure would still have to be 520 pounds.

Even if the hose would stand this excessive pressure, the pumper would not be able to deliver 187 gallons per minute against 520 pounds pressure.

The strength of the hose is the major factor in many relay layouts. Many fire departments test their hose at 200 pounds pressure after it has been in service for some time, and the danger of subjecting such hose to pressures of 300 or 400 pounds can be appreciated.

If the length of a line and the size of the nozzle required would subject hose to these higher pressures, it is far better to place engines in relay and thus secure the discharge without the excessive pressure.

Normally the larger pump is used at the source of supply and the smaller pump near the nozzle. Some authorities, however, feel that the larger pump should be in the middle of the line, for in the event that the line must be extended, imposing a bigger load on the pump, the engine would have the excess power to take care of the additional load.

Discharge outlets from either side of the pumper can be used with equal effectiveness. It is not necessary to connect the hose to the outlet on the opposite side from the suction.

Recognizing Types of Fires

To the Editor:

How would you recognize various types of fires? This question was recently asked in an examination.

J. C.

Answer: Certain types of fires can be recognized by the color of the smoke produced.

Other fires, particularly in commercial buildings, are identified by the nameplates on the buildings indicating the type of manufacturing which is done on the particular floor on which the fire occurred.

Possibly the examiner had in mind the identity of the fire by smoke color. This is quite commonly done, but it requires a great deal of experience, and there is always a chance of serious error in following this method.

Static Pressure

To the Editor:

Our drillmaster and I have been having a discussion for some time over the following question:

If a pipe or hose is 100 feet high, and the pump pressure is 100 pounds, what will the pressure at the nozzle or cap register?

The drillmaster contends that you must multiply 100 x .434 and subtract the answer from 100. This, he claims,

makes allowance for the weight of the water.

I claim that with the nozzle or cap closed and the pump pressure reading 100 pounds, the pressure at the nozzle or cap will be 100 pounds. If the water is moving, I agree with him that you must use .434 in arriving at the correct answer.

J. L. P.

Answer: Your drillmaster is correct. It is necessary to subtract the static pressure from the pressure generated by the pump to get the pressure at the cap on top of the pipe. The back pressure is 100 x .434, or 43.4 pounds. The pump pressure is 100 pounds. Thus the pressure at the top of the standpipe will be 100 — 43.4, or 56.6 pounds.

To carry the discussion a little further, if the standpipe were 230 feet in height, and the engine pressure remained at 100 pounds, it would be sufficient merely to keep the standpipe filled, and the pressure at the cap on the top of the pipe would be zero.

School Fire Patrols Help Prevent Fires

The School Fire Patrol has been initiated in many schools as part of the extensive fire prevention activities of the Ohio Fire Safety Committee, Division of State Fire Marshal. This program has the hearty endorsement of Harry J. Callan, State Fire Marshal, as one of the best means of teaching the youngsters in the rudiments of fire safety, for it instills in them a sense of responsibility for their own and their fellow students' welfare.

The patrol is set up in the grade schools with a student chief leading each school. He reports directly to the fire department, correlating the information of his junior officers and making personal inspections. In each grade from the fourth through the eighth, a captain and lieutenant assume active duties. The carrying of matches, fireworks, etc., is banned and enforcement is carried out. Fire prevention literature is distributed and instructions in fire safety given. The patrol in the high school is essentially the same, with emphasis being placed on means of egress and condition of exit doors.

The patrol assists in fire drills, helping crippled children out of the building, observing that all doors are closed after the class has left the room; emptying waste paper baskets after school, assisting as ushers during basket ball games or other indoor activities and other fire safety duties as they may arise.

Fire patrol members wear belts of red web to which is attached their official badge. These belts and badges are usually furnished by service clubs or the Chambers of Commerce in the community as a public service.

The Lancaster, Ohio, Fire Department was the first to sponsor this project and has one of the most active patrols in the state, having some 166 members in the schools throughout the city.

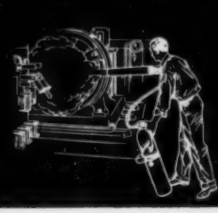
These pupils do not combat or attend fires, but are used as a preventive body. All schools in Ohio are being urged to foster similar groups.

You know how to operate this extinguisher JUST BY LOOKING AT IT!

It's a Randolph!

The *first 10 to 30 seconds* can mean the difference between *no loss* and *complete destruction* when fire starts. That's why Randolph's simple, *obvious* operation is so important in stopping fires *before* they spread!

Anybody can get a Randolph into action FAST! No valves to turn, no nozzles to adjust; just point and press your thumb! Randolph's snowy CO_2 is non-damaging, evaporates without a trace. It's non-toxic, won't conduct electricity, deteriorate or freeze. Underwriters' Approved.



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Randolph
SIMPLIFIED FIRE EQUIPMENT

SINCE 1908

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WARNING SIRENS HAVE LEAD THE FIELD

DEPENDABLE POWERFUL AREA WARNING SIRENS
From ½ to 5 H.P.

N. Y. CITY TEST GAVE SIRENO HIGHEST RATING

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THE SIRENO CO., INC.
214½ WILLIAM STREET
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GEYSER DELUGE DECK PIPES

FOR HIGH VELOCITY, HIGH GPM INSTALLATIONS

Mount on apparatus or install wherever permanent fire protection is needed. Ideal for lumber yards, stock yards, industrial plants, docks, etc.

Geyser Deluge Deck Pumps have a full horizontal sweep of 360°, and a vertical range of 10° below and 60° above horizontal. Bronze ball bearing movement—locks in any position. Direct threaded or bolt type flange bases available.

Tips are straight bored for maximum distance and stream efficiency — 1½", 1¾" or 2" discharge tips furnished as standard.

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Contact your Wooster Brass Representative or write direct.

HOSE BRASS GOODS W LINE THE WOOSTER BRASS CO. WOOSTER, OHIO

THE WOOSTER BRASS COMPANY
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Manufacturers of a Complete Line of Distinctive Fire Fighting Equipment

Obituaries

Chief C. J. Heineman Dead

Chief Charles J. Heineman, 82, a member of the Meriden, Conn., Fire Department for 43 years prior to his retirement in 1933, died in his home 120 Liberty Street, Meriden, on December 3, following a brief illness.

Chief Heineman joined the Meriden Fire Department in 1890, as a substitute fireman. Later he was named a callman at the Wilcox Hose Company, now Engine Company No. 4. In 1928 he was appointed Assistant Chief and advanced to the post of Chief in 1932. The late Chief Heineman was active in local and state politics and represented the city's fifth ward as an alderman, and was a State Senator and State Representative during his younger days. In 1924 he was elected President of the Connecticut State Firemen's Association.

Funeral services took place in the Flatow Home, 48 Cook Avenue on December 7. Burial was in Walnut Grove Cemetery.—TOM MAGNER

John Davin, Retired N.Y.F.D. Deputy Chief, Dies

John Davin, 78, who retired as deputy chief of the New York Fire Department in 1939, after forty-four years service, died at his Brooklyn home on December 2nd.

In his long and busy career, Chief Davin witnessed the end of the horse-drawn apparatus era and saw fire fighting become the science it is today. As Captain of Engine 72 in lower Manhattan, he organized the department's first high pressure unit and soon after his company was assigned the first gasoline-driven piece of apparatus.

For many years he served on the department's Fire College. He joined the organization in 1895, was promoted to battalion chief in 1910 and deputy chief in 1919, serving in Brooklyn and Queens with that rank until his retirement. He was listed three times in the department's Roll of Merit and served as a member of the Board of Merit for several years.

A son, John Davin, who retired from the department in August, survives.

Jersey Fire Chief Dies in Crash

John Mead, Chief of the Jefferson Township Volunteer Fire Department, N. J., was killed December 3, 1950, when his car skidded out of control on a wet pavement near the traffic circle at Ledgewood, N. J. Two other occupants of the car escaped serious injury, it was reported.

Marshal Mersch, Evanston, Dies

John E. Mersch, 67, assistant marshal of the Evanston, Ill., Fire Department, collapsed and died suddenly in October while driving an auto in a fire prevention parade. He had been a member of the department since 1905 and was the first president of the Cook County Suburban Firemen's Association. He was also a past president of the Illinois Firemen's Assoc., Inc. and was for

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Widely accepted by the Military, Industry and Schools for all types of instruction and training.

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Recognized by the Fire Service as Standard

Questions and Answers for Lieutenant and Captain—$2.50

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(*The Above Prices Are All Postpaid*)

CASE-SHEPPERD-MANN PUBLISHING CORP.
24 West 40th Street
New York 18, N. Y.

many years on its Executive Board.

Marshal Mersch was made a captain of the department in 1920 and appointed assistant marshal in 1932. He leaves a wife, two sons, one a captain in the Evansville Fire Department, a daughter, a brother and two sisters.

Ex-Deputy Chief Carlson Dies

Albert B. Carlson, 57, former Deputy Chief of the New York Fire Department, who retired in 1941 as head of the Marine Division, died last month in Danbury, Conn., where he was engaged in the real estate business.

Chief Carlson, who directed fire fighting operations in many of the city's high hazard districts, was several times named on the Merit roll. He leaves a widow.

Former Chief Yost, Somerville, N. J., Passes

David Henry Yost, Chief of the Somerville, N. J., Fire Department for the past two years died after a brief illness in Somerset Hospital. Chief Yost was active in New Jersey fire service circles. Surviving are his wife, mother, and two sisters.

Persons in the News

Marshal Mullaney Will Get New Post

The Chicago, Ill., City Council voted unanimously in December to create a new post for Chief Fire Marshal Anthony J. Mullaney, present head of the Chicago Fire Department, who is destined to retire in 1951 under the compulsory retirement age of 63. It is said the new position of "Assistant Fire Commissioner and Director of Civil Defense" will permit him to remain the No. 2 man in the department after February 7, at which time, according to civil service commission records, he will reach 63.

In his new post he will get a salary of $10,100 a year, equal to the pay he now receives. The position is to be written into the 1951 city budget. According to Mayor Kennelly, Marshal Mullaney will be Chief Fire Marshal until Feb. 7, after which he assumes the new title.

Alderman also approved a new job of director of fire safety for congested areas for John L. Fenn, at $6,186 a year, equal to the pay he received as director of the fire prevention bureau until he reached retirement age late in December.

John Fenn, Chicago, Fire Marshal, Ends Active Career

John L. Fenn, Chief of the Chicago Fire Department's Fire Prevention Bureau, who in his 38 years of busy service has answered 11,000 fire alarms, retired December 14th, last, at the age of 63, the compulsory retirement mark.

Fenn, who became head of the bureau in 1941 when with Engine 104, was one of the first men to drive the department's auto hose trucks when horse wagons were discontinued. He twice won the Chicago Tribune's award for bravery.

Before his retirement, employes of

For Quick Starting Try a HALE FZZ

The FZZ will supply from draft 60 GPM at 90 lbs. and 150 GPM at 30 lbs. Easy and quick-starting in all kinds of weather.

Users are pleased with the quick-starting ability of the Hale type FZZ Portable Pumping Unit — an especially valuable feature in freezing weather. The 4-cycle, single-cylinder, 8¼ H.P. engine ensures ease and speed in starting . . . and plenty of power to the direct-connected Hale Pump. **Note:** Discharge Adapter available for use with 2½-inch fire hose.

Firefighters are amazed, too, at the pump's efficiency under tough pumping conditions. Letter after letter from users describes the FZZ's pumping ability to deliver through long lines of hose a volume and pressure they consider remarkable.

Write for FZZ folder. Let us know if your Company wants a demonstration.

HALE FIRE PUMP COMPANY
CONSHOHOCKEN, PA.
FIRE PUMPS IN ALL STANDARD CAPACITIES

CAIRNS
WHATEVER YOUR PREFERENCE AS TO MATERIAL, STYLE OR PRICE

REGULATION OR DROP BRIM

LEATHER

ALUMINUM

14 STYLES TO CHOOSE FROM

PLASTIC

PRICES TO SUIT ALL BUDGETS

Write for Catalog 331

CAIRNS & BRO., Inc.
ALLWOOD, CLIFTON, N. J.
Outfitters to Firemen Since 1836

Now is the time to start your new FIRE RECORD BOOK. We have sizes for large or small departments; also SECRETARY'S BOOKS and other forms.

HELMETS

CARPENTER LIGHTS
360 DEGREES
RED FLASHING LIGHT
LONG-RANGE VISIBILITY

For mounting on cab roofs of snow plows, trucks, buses, repair cars and emergency vehicles of all types. Available with or without built-in flasher and in 3½" or 4½" lens. Also available with Blue, Amber, Green or White lens, or combination 240 degree Red (for rear) and 120 degree Amber or Blue (for front) or other combinations. Visible from any angle.

Write for new Emergency Lighting Folder

CARPENTER MFG. CO.
200 Master-Light Bldg.
BOSTON-45-SOMERVILLE, MASS.

BODY-GUARD
BUNKER SUITS
FOR COMFORT & PROTECTION

WE ARE DISTRIBUTORS FOR
SIREN BOOTS

We have been supplying FIREMEN'S CLOTHING for over 25 years.

Any fireman can have a catalog by writing —

BODY-GUARD MANUFACTURING CO.
ST. JOSEPH - - MISSOURI

Fire Commissioner Corrigan's office honored him with a party at which he was presented with a thermos jug-shaped like a fire extinguisher.

His place will be filled jointly by First Deputy Marshal John Haberkorn and Second Deputy Marshal Albert Peterson until an appointment is made.

Chief Everett, Lompoc, Calif., Retires

After 36 years as Chief of the Lompoc, Calif., Fire Department, Charles E. Everett has retired because of ill health. He will devote his time to his farms and his fine horses.

The new Chief of the Lompoc Fire Department is Victor Mohr.

Chief Mader Active at 85

Fire Chief William Mader, for 62 years head of the Bucyrus, Ohio, Fire Department, is 85 years "young"—and going strong. The doughty chief, and his record, which is believed to set some sort of precedent or other, was recently honored by 41 Ohio fire chiefs with a dinner and parade.

Chief Mader said he's "not figuring on retiring."

John Cashman Heads New Levittown Volunteer Fire Department

Levittown, the Long Island community developed by builder Levitt, which has mushroomed to a population of over 20,000 in a few months, now has its own fire department, 80 strong. In December the vamps elected John Cashman as their first Fire Chief.

Cashman, member of the New York Fire Department, attached to one of the department's busiest ladder companies, was instrumental in organizing the volunteers from the beginning. He was appointed a fire commissioner in July, 1950, when the department was formed. Since then he has acted as training officer for the vamps. He resigned his commissionership Jan. 1, 1951, when the district became activated and took over his new duties as Chief.

Also elected were Christian Wilkens and August Olsen, Deputy Chiefs; Paul Barnhill, Secretary and James Higgins, Treasurer.

The new department has been using emergency equipment, pending delivery of the latest type fire fighting apparatus. A large new firehouse is under way.

Heavy Loss in Long Island Theatre Fire

On October 26, 1950, the Farmingdale Theatre, one of the metropolitan "Prudential" chain, was gutted by a four-hour fire in spite of the efforts of 250 volunteer firemen, who were handicapped at the start by a delayed discovery and alarm.

The theatre, a concrete and steel structure with wood and tarpaper roof on steel girders, was located on Main street, Farmingdale, L. I., diagonally opposite local fire headquarters. The building was substantially lined with acoustic cloth fastened to wood furring.

A cruising taxi driver noticed flames breaking through the roof at 2:45 A.M., and called to a pedestrian, who pulled the alarm box on headquarters building. Four companies of the local fire department responded promptly and were quickly reinforced by seven others drawn from East Farmingdale, Massapequa and North Massapequa, bringing a total of 120 men to the aid of the 100 or more Farmingdale volunteers. East Farmingdale responded with four pieces of ap-

Heart of the North Volunteer Firemen's Association Meets

This organization with the odd name, comprising 22 fire departments with 580 fire fighter members, is located in the heart of northern Wisconsin and was formed in 1933. It meets monthly in a different member's community to promote training and mutual aid. A fire school is conducted in the spring, and an annual joint meeting is held with the Polk County Firemen's Association, also of that state.

Present officers are President, Chief Ed. Koepp, Cameron; Vice-President, Chief Glen Flynn, Chetek; Chief I. O. Reiten, Rice Lake, Secy.-Treas. Shown in the above picture, taken at the Barron meeting, are: (Seated, left to right) A. E. Becker, Barron Fire Department; Chief Ed. Koepp, Chief I. Reiten. (Standing, l. to r.) Chief H. J. Wintrone, Barron Fire Department; Captains Griffiths and Westling of the Minneapolis Fire Department. Captain Westling, who is drillmaster of the M.F.D., was guest speaker at the Barron meeting. His topic was "Ventilation and Rescue Work."

paratus and 55 men under Chief George Einsettler; Massapequa, with three units and 40 men under Chief Frank Weinsbeck, and North Massapequa with a pumper and 27 men directed by Chief Cliff Webrosen.

Eight hand lines were operated through exits and main lobby of the theatre, while a ladder pipe on an aerial ladder was directed on the roof; after roof collapse, the stream was directed through the roof of the structure.

Flames cut some electric power lines adjacent to the building, while utility workers cut others to facilitate use of the aerial. Two firemen were slightly injured.

The cause of the fire was not determined but was believed to be due to a cigarette discarded in the balcony during the last show. The Nassau County Fire Marshal's office was reported investigating the origin. It is considered ironical that the townsfolk and other theatregoers had always considered the theatre a "fireproof" structure.

JAMES FAIRBROTHER.

Indians Get Fire Prevention

School children of the Onondaga Indian Reservation, New York State, are showing the way in a new and highly important field—fire safety.

Development of a program, fashioned after the Syracuse, N. Y., Pupil Fire Safety Patrol, by the Onondaga Indian School, located on the Onondaga Reservation, south of Nedrow, was announced jointly by Mrs. Ethel K. Van Wie, principal, and Fire Chief William J. Connelly on November 11.

The project, Mrs. Van Wie said, has been enthusiastically received by all of the Indian school children, and added that although the program is still in its infancy, no greater exponents of the principles of fire prevention, protection and safety are to be found anywhere.

Ground-work of the fire safety patrol at the reservation school was instituted by Syracuse Fire Department personnel, upon the invitation of Mrs. Van Wie.

Chief Connelly recently detailed Lieutenants Fred A. Patuna and James O'Connell, of the Syracuse Pupil Fire Safety Patrol unit, of the Fire Department, to assist the principal and faculty in setting up the fire safety project at the Indian school.

The children were given a course of instruction in the work, along lines followed in the Syracuse schools. In this connection, educational films were shown and modern methods of eliminating causes of fire, and protection of life and property against the ravages of fire were taught and illustrated.

Under the supervision of Mrs. Van Wie and the teachers, a new type of chief entered the Onondaga Indian Reservation picture for the first time, a pupil fire chief. Selection of pupil fire captains and pupil fire lieutenants for the various classrooms followed.

With the designations completed, the new pupil fire officers were installed by Lieutenants Patuna and O'Connell and presented with badges made available by the Syracuse Firemen's Association.

The program is meeting with real success and the children are applying their newly acquired knowledge not only in and about the school, but in their homes as well.

Double trouble for fires ...extra economy for you

Approved and listed under the Underwriters' Laboratories' Re-examination Service.

Actual Tests Prove 3% Aer-O-Foam Liquid Tops In Performance

Aer-O-Foam gives you low-cost protection against flammable liquid fires ... snuffs out flame with a blanket of foam, quickly and efficiently.

To make it more economical than ever to use, the makers of Aer-O-Foam Liquid offer this product in 3% concentrated form. It saves you money in four different ways:

1 Lower cost per unit volume of foam
2 Lower freight charges
3 Less storage space needed
4 Less time spent in handling

In addition to all these advantages, actual tests prove that Aer-O-Foam gives you better all-round performance than other brands of 3% Liquid. Whether you buy Aer-O-Foam Liquid in 3% or regular 6% form, you can be sure there's no better foam liquid, anywhere.

CHECK THESE FIGURES

Here's how 3% Aer-O-Foam gives better performance	Foam Expansion at 70°F. (Gallons of foam per gallon of solution)	Minimum Operating Temperature, °F.*	FIRE TEST in accordance with nationally recognized standards: Coverage (Minutes)	Control (Minutes)	Extinguishment (Minutes)	Vapor Sealing Ability (Minutes)	Burn-Back Area** (Inches square)
3% Aer-O-Foam Liquid	10.25	0	0.80	1.66	2.25	20.0	10
Brand "Y"	9.00	6	1.33	4.00	4.33	6.5	19
Brand "Z"	8.50	14	2.50	4.33	5.17	2.0	30

*Temperature below which foam liquid viscosity increases so that pick-up rate is too low

**A six-inch square hole is cut in blanket, reignited and permitted to burn for five minutes. The extent of increase of exposed surface is then measured.

For further information, see your nearest National Foam distributor, or write to the address below.

NATIONAL FOAM SYSTEM, INC.
Headquarters for Foam Fire Protection
WEST CHESTER, PENNA.

NATIONAL FOAM CONTINUOUS FOAM PRODUCTION SYSTEM

AN ENTIRELY NEW
TRIPLE COMBINATION HAHN
WITH THE FAMOUS
MID-SHIP MOUNTED
INGERSOLL-RAND
"CLASS A" PUMP

• CHOOSE your own chassis—
select your own idea of what you need for equipment—but above all you'll get a pump that will stand up to every demand you put on it—500 or 750 GPM, the finest pump in fire service. Plenty of water carrying capacity—booster hose and reel—spot and floodlights—plenty of hose capacity. We'll be glad to demonstrate this unit. For detailed description—write or wire—

Deliveries Are Still Prompt

LEIDY
ELECTRIC CO.
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Floodlighting
WHERE YOU NEED IT!

EASILY CARRIED
Lightweight and compact, Onan Electric Plants can be hurried to the spot where needed. Supply current for floodlights, electric saws, drills and other tools. Always ready for instant use.

FIT INTO SMALL SPACE
Compact, self-contained Onan Electric plants can be ordered as standard equipment with many makes of new fire trucks. Just a few square inches of mounting space required for installation on old trucks.

Write for FREE Folder!

New folder shows many lightweight models for fire department use. D.C.: 1200 to 5,000 watts. A.C.: 350 to 3,000 watts. Large plants for emergency operation of signal systems to 35,000 watts.

Onan D.W. ONAN & SONS INC.
5678 Royalston Ave., Minneapolis 5, Minn.

Chicago

(*Continued from page 34*)

tain contact with immediately adjacent posts by police radio, field telephone, or messenger, and make every effort to coordinate and equalize their forces.

If fire-alarm communications are intact, they shall maintain constant contact with that office. They shall also maintain a record of the movement of companies through their posts so that off-duty men reporting for service can be duly advised as to the location of their respective companies.

Officers at command posts shall perform any rescue work which comes within the scope of fire department duties and make every possible effort to prevent the spread of fire. They shall consider the safety of their men of paramount importance and take every precaution to guard them against possible contamination hazards.

In accordance with pre-arranged plans, the civil defense radiological division shall cooperate as rapidly as possible to inform fire officers as to radiological hazards involved in their particular vicinities, and in turn, officers shall be governed by their findings.

The special order concludes with the assumption that the enemy will explode one or two atomic bombs over Chicago. In the event the enemy uses a combination of high explosives and incendiary bombs, companies shall be deployed by the fire-alarm office or by the Division Marshals from dispersal stations as previously described.

Under such conditions, companies shall respond to such incidents requiring heavy duty equipment either through routine communications or upon visual observation of the explosion. They shall use discretion and leave to the care of the warden service such ordinary fires which in their judgment can be kept safely under control.

In the event an atomic explosion or any other large scale explosion is set off by saboteurs, or comes from the air without warning, all officers and companies shall proceed to the incident in accordance with provisions of the Special Order.

Finally, under any of the aforementioned conditions, officers at command posts shall keep in constant contact with the First Deputy Fire Marshal either by radio, field telephone, or messenger. They shall give the First Deputy Fire Marshal complete information as to conditions prevailing in their areas, and shall be governed conclusively by his orders.

On September 18, a partial "dry run" of the plan was plotted by the fire service committee. Their report on this theoretical atom attack on Chicago was published under the title of "Solution of the Fire Problem of Hypothetical Bomb Blast Exercise." A future FIRE ENGINEERING issue will carry the blow-by-blow account of a hypothetical atomic bombing of Chicago.

Clay Products Plant Fire

(*Continued from page 32*)

and led the attack on the fire. They were handicapped by lack of water and the difficulty of reaching all sections of the 84-acre plant.

Captain Henry J. Heisterman of Fire Company 17, which is housed in a concrete structure adjoining the huge installation, said his outfit reached the scene seconds after a heavy explosion blew off the roof of the drying plant.

Help was immediately summoned and companies from Santa Fe Springs, Pico, Norwalk, Belvedere Gardens, San Gabriel, Wilmar and Rosemead responded. It was impossible to save the combustible structure although some connecting and adjoining exposures were successfully protected.

Chief Klinger said his men managed to beat the flames to a stockpile of dynamite caps and other explosives at one time only 50 feet from the fire. The blaze was reported under control two hours after the outbreak.

The victim of the fire was Meredith Hawk, 42, a drying engineer for the company, who collapsed of a heart attack near his home after taking an active part in salvaging plant property from the fire. Injured during the battle were Capt. Charles N. Hamlin, Engine Co. 17, and Fireman Hugo Wild of Santa Fe Springs, overcome by heat. First aid was administered the men by Capt. E. Johnson of Company 20 and Fireman Johnson of Company 17. Hamlin was taken in serious condition to Pico Emergency Hospital. Wild, after treatment, was sent home.

As an amusing sidelight: County Fire

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FIRE CHIEF

Fire Chief or fire protection man for large industrial plant. Should have a working knowledge of the requirements for industrial fire protection as set forth by the National Board of Fire Underwriters. Experience as a fire insurance inspector preferable but not absolutely essential. Address reply to Box 210, c/o FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

TWO FIRE TRUCKS
In Good Condition

One 1943 K-5 International with 500 G.P.M. Hale Pump. Good condition. $2,250 F.O.B., Atlanta, Ga.
One 1943 Ahrens-Fox Ford with 500 G.P.M. Pump. Good condition. Also $2,250 F.O.B., Atlanta, Ga.

Phone MAin 2134
FULTON AUTO EXCHANGE
190 Edgewood Avenue, Atlanta, Ga.

ATTENTION!
ALL FIRE DEPARTMENTS

Black Rubber Coats—Turnout Coats—Factory Repaired—Torn Boot Tops—Replaced like new—$4.00 Pair. Save Money—All work guaranteed—Freight paid one way.

HARRY GODFREY
40 Union Square, New York 3, N. Y.

POSITION WANTED

Fire Protection Field—in Municipality or Plant. 26 Years of Experience in Fire Engineering, Fire-Fighting, Fire Prevention, Maintenance Supervision and Personnel Training. Age 48, Married, unlimited references. Write to Box 200, c/o FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

FOR SALE

1 gal. Pressurized C.T.C. Fire Extinguishers, reconditioned, excellent, charged and wall bracket. Dozen Lots $13.75 each. Sample $15.00 (Factory cost $73.00.)

ABSOLUTE FIRE PROTECTION CO.
1081 Arlington Ave.
Plainfield, N. J.

A Happy and Safe New Year

Mounted on the cab roof provides 360 degrees of safe, brilliant light at all times.

Defense orders are coming in, be patient if your order is not delivered as promptly as in the past.

ARGUSLITE CO.
BLUE RIDGE SUMMIT, PENNA.

Capt. Paul Alexander of Engine 22, while fighting the blaze, suddenly knocked off, hurried to a telephone, and called the Sheriff's East Los Angeles Station: "We've got two turkeys in the oven at Station 22, at 922 S. Gearhart St.," he shouted, "Gosh, get over there and save our birds!" It is reported that Sheriff Kenneth Steiler arrived and shut off the oven just in time—and Engine 22's crew had their Thanksgiving feast after all.

The destruction of the big plant is said to have resulted in widespread dislocation in the industry. Most of the firm's 250 workers were put to work clearing away wreckage.

Cover photo shows oil pipe rupture showering burning fuel and debris over large area.

Private Fire Brigade

(*Continued from page 37*)

church and parochial school, at least two costly restaurants, and many lesser properties, along with several lives.

One of the toughest problems was the necessity of covering an area which is devoid of fire hydrants, since it lies outside the city limits. He overcame this obstacle by buying three tank trucks equipped with high pressure pumps and fog nozzles.

Recently fire underwriters gave Witzeman's subscribers a reduction in insurance rates, probably the best indication that Rural Fire Protection has proved effective.

Witzeman started out with only $1,600 and an idea—that a private fire department might click. To raise more money he sold $10,000 worth of subscriptions, which he used to buy fire-fighting equipment, pay firemen's wages and build station house No. 1. Bit by bit, Rural Fire Protection branched out—a new truck here, another here, a second station house and then a third. He added equipment such as hose, smoke masks, axes, pile poles, ladders, stretchers, and blankets.

Rural Fire Protection answers all alarms, taking a chance on collecting for services rendered to people who aren't his customers.

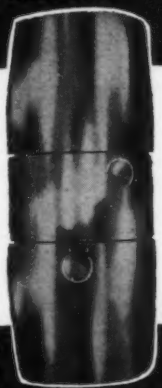
Philadelphia Relies on Radio in Civil Defense Plans

Assisted by a $250,000 appropriation by the Philadelphia City Council in September, 1950, the Philadelphia County Civil Defense Council has made marked progress toward its goal of providing the city with an adequate civil defense organization.

In setting up its principles of civil defense, the Council has recognized the fact that "civil defense planning must be developed on a scale far greater than that connected with World War II." And in this connection it has placed high on its program adequate communications facilities.

Four regional control centers will be established throughout the city. The city's two-way radio system will be expanded. (An $86,440 contract has been made with the Radio Corporation of America for 150 mobile 2-way radio units, and 2 complete station installations). About 280 air raid sirens will be installed (3 sirens are now reported being installed each day).

BAR-WAY HOSE COUPLINGS
FOR ¾" AND 1" BOOSTER AND HIGH PRESSURE FOG LINES



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FULL FLOW
INTERNAL EXPANSION
ACCURATELY MACHINED
REMOUNTABLE

For maximum efficiency, economy and protection specify Bar-Way couplings attached to hose of proper size. Endorsed by leading hose manufacturers and demanded by more and more fire departments.

BAR-WAY MFG. CO., STAMFORD, CONN.
WEST COAST REPRESENTATIVE:
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We can help your department win that "Best Dressed" award.

The following letter speaks for itself:

"The Silver City Fire Department won First Prize at the 1949 New Mexico State Firemen's Association Convention for being the Best Dressed Fire Department in the state; we were wearing Russell Uniforms."

(F. E. Boren, Chief, Fire Dept., Silver City, N. M.)

Write for our catalog No. G-60, samples of materials, and measurement form.

RUSSELL UNIFORM CO.
192 Lexington Avenue
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New York 16, N. Y.

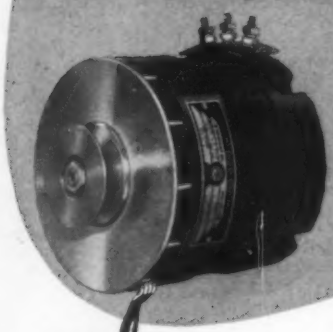
In the Fire Service—
THERE'S NOTHING "JUST AS GOOD"

The fire service prides itself on buying "the best," everytime. *INSIST on ATLAS*—everytime—and you'll get the best life net!

ATLAS LIFE NETS

ATLAS SAFETY EQUIPMENT CO., INC.
27 WARREN ST. NEW YORK 7, N. Y.

Dependable Power For DISASTER COMMUNICATIONS SERVICE



The action of the Federal Communications Commission puts a new responsibility on all owners and operators of two-way radio, whether taxi, utility, or public protection agency. Nothing should be left undone that can help insure vital communications by mobile radio in case of disaster.

Any mobile radio not yet equipped with a Leece-Neville Alternator should be brought up to date by installation of the AC-DC Alternator System. This dependable power supply delivers 25 to 35 amperes idling and insures against breakdown of radio or vehicle due to battery failure.

For all the facts, write Dept. 18,
The Leece-Neville Co., Cleveland 14, O.
Pioneer and STILL Quality Leader

Leece-Neville

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(See Answer Below)

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